The Engineering Staff of The American City

THEODORE REED KENDALL
Consulting Editor

TWENTY-FIVE years ago this month a graduate of the Harvard Engineering School—Theodore Reed Kendall, Master in Civil Engineering, 1914—was appointed Engineering Editor of THE AMERICAN CITY. Not only in his technical education, but in his practical experience, Mr. Kendall was well fitted for his task. For about two years after his graduation he had served as personal field assistant to the late George Chandler Whipple in sanitary engineering investigations. Following this he was in charge of water supply at Gatun, Canal Zone.

Mr. Kendall's editorial work was temporarily interrupted by the World War. In 1918 he was commissioned First Lieutenant, Sanitary Corps, U. S. A., and engaged in the design, construction, and operation of water works and sewage-treatment plants among the eastern seaports and cantonments.

During the interludes of alternate prosperity and depression between world wars, Mr. Kendall became increasingly known to THE AMERICAN CITY's readers not only through his intelligent and discerning work as editor and writer, but through a continuous series of diligent field trips in which municipalities in almost every state of the Union have been visited.

In recent years, Mr. Kendall has been dividing his time between THE AMERICAN CITY and the editorship of *Contractors and Engineers Monthly*. As the growing importance of the latter publication demands the full time of its editor, an addition has been made to the editorial staff of THE AMERICAN CITY in the person of William S. Foster, just appointed Engineering Editor of this magazine, Mr. Kendall becoming Consulting Editor.

Mr. Foster comes from the Middle West. Born in 1910 in Sandpoint, Idaho, he is the son of an engineer who had been active in the Northwest and in Alaska, and who later became a professor at Iowa State College. Bill was graduated from that institution in 1933, with a degree in Civil Engineering. Since then his work has involved one year with the government, later a period with the Iowa State Highway Commission on all types of road and street construction, and with the Stanley Engineering Company of Muscatine, Iowa, a consulting firm with an active municipal practice in the Middle West. His services with this company included water works construc-

WILLIAM S. FOSTER
Engineering Editor

tion, sewage treatment, municipal electric plants, and street improvements. These activities involved not only design and construction duties, but also preliminary negotiations with city councils for the purpose of setting up proposed projects.

The writings of THE AMERICAN CITY's new Engineering Editor are not unknown to readers of various technical journals, he having contributed articles in recent years to *Engineering News-Record*, *Construction Methods*, *Civil Engineering*, *Roads and Streets*, and other publications. Mr. Foster now has the task of maintaining, in THE AMERICAN CITY's articles on engineering subjects, the high standards set by Mr. Kendall.

ALDEN W. WELCH
Research Editor

The engineering staff of THE AMERICAN CITY continues to include Alden W. Welch, who since 1934 has had the title of Research Editor, and who was recently elected Secretary of the American City Magazine Corporation. A native of New Jersey and a graduate of Pratt Institute, Brooklyn, N. Y., Alden served six years in engineering departments of the Brooklyn Edison Co. Then for four years he was assistant editor of *Engineering News*, later *Engineering News-Record*.

Several years after the merger of the Hill Publishing Co. and the McGraw Publishing Co., Mr. Welch was made manager of the Business News Department of the McGraw-Hill Publishing Co. Here he originated and developed the Engineering News-Record Construction Cost and Construction Volume Index Numbers and the statistics of engineering construction.

On the staff of THE AMERICAN CITY, Mr. Welch's fields include public safety, traffic, street lighting, city transportation, and mechanized municipal accounting and office work.

* * *

As to the non-engineering staff: It is with profound sorrow that we record the passing of Mrs. Mary V. Fuller, the able Associate Editor of THE AMERICAN CITY ever since the founding of this magazine more than 32 years ago, and efficiently active up to a few weeks before her death on February 25. Mrs. Fuller's work and other editorial duties are now the responsibility of two assistant editors—Miriam Strong and Camilla McComber. Harold S. Buttenheim continues as Editor-in-Chief.

Guard YOUR WATER SUPPLY SYSTEM

Beware of sabotage! Remember, in an emergency, your water system may save highly valuable materials, buildings and even lives.

Neglect is almost as destructive as sabotage. If your water supply system is not in tip top order, call in Layne and have necessary repairing and reconditioning done at once. Materials, except for strictly war work, may not be available later. Maintaining present equipment is real conservation.

If you require more water, arrange for additional wells and pumps without delay. Better call in a Layne engineer. He will cooperate with you in planning your additional water supply so as to use the minimum amount of materials essential to war work, yet give you an adequate, efficient and long lived installation. Layne wells and pumps are designed for your requirements regardless of size. They are noted for their high efficiency and trouble free service. They are serving all types of industries, municipalities both large and small, army and navy needs, training camps, flying fields and munitions plants.

Write, wire or telephone for further facts.

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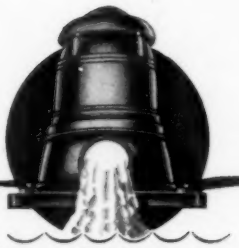

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● IF YOU NEED MORE WATER — Layne will provide competent engineers who will cooperate in checking water bearing formations, size of wells necessary and the type of pumps that will operate at the lowest cost per million gallons. No obligation.

WORLD'S LARGEST WATER DEVELOPERS

When you write for that catalog, kindly mention THE AMERICAN CITY.

Our Municipal Notebook

I sometimes wonder what the cities buy
One half so precious as the stuff they give
After Omar Khayyam

A CITY government not only buys practically everything made, but municipal purchasing agents and department heads are buying with increasing discrimination. While superficially much of the purchasing is on a "price basis," nevertheless where important items and services are involved, the specifications and requirements are drawn to make possible the selection of quality products which assure efficient performance plus the service and interest of a reputable manufacturer.

The particularly efficient Department of Purchase of New York City recently published a 425-page Standard Stock Catalog listing 79 classes of materials, commodities, equipment, and parts carried in the 31 municipal storehouses. Each class includes up to hundreds of items, some items having dozens of variations. Each item is described, so that each using department requisitions the item by its right and only recognized name. The number of the covering specification is given, as well as the storehouses which carry the item in stock. The items start with Acacia and close with Zonite; yet the 16-page index by no means lists all commodities purchased by a city government. For instance, New York owns no electric plant or distribution system, and the Department of Purchase does not buy for the Transportation Department or the Board of Water Supply.

Although owning no elecrtic system, New York uses four pages of about 80 lines each to list the types of wire and cable used for buildings, motor vehicles, batteries, fire alarms, and telephones.

An interesting point is the use of firm names (or equivalent) to set the quality. Hence there are Hubbell socket caps, Eagle Electric ground clamps, Appleton box connectors, Erickson and Steel City Electric Co. conduits, National Electric Co. metal moulding, Homelite generators, Metropolitan Electric Mfg. Co. switches. The remarkable though logical increase in the use of measuring devices by cities is shown by the recording charts stocked for instruments made by these companies:

Bristol Recording Instrument Co.
Brown Instrument Co.
Builders Iron Foundry
Cochrane Flow Meter Co.
Consolidated-Ashcroft-Hancock
Crosby Steam Gage & Valve Co.
Esterline Angus Co., Inc.
The Foxboro Co., Inc.
General Electric Co.
International Filter Co.
Republic Meters
R. W. Sparling
Simplex Valve & Meter Co.
Taylor Instrument Co.
Uehling Instrument Co.
U. S. Gage Co.
Westinghouse Electric & Mfg. Co.

Many names appear in the 32 pages listing tools—hand and machine. Pipe and pipe fittings occupy 39 pages covering vitrified clay, soil, wrought iron, cast iron, steel, lead, and brass. Among the numerous valve listings, Walworth is mentioned for lubricated plug valves and Lunkenheimer for relief valves. Steel occupies 8½ pages, including two for plates and two for structural shapes.

Acacia and Zonite, aforementioned, are in the 38 pages of chemicals and drugs. In the azochloramid group, Wallace & Tiernan is named, and the Eastman Kodak Co. for elon.

The seven pages of paints take care of boilers, engines, lockers, poles, roofs, traffic zones, and swimming pools. A full page is devoted to A. B. Dick Co. Mimeograph stencils, lettering guides, Styli pens, and paper. Foods and hospital supplies are listed in great detail. *In memoriam*, there is an extensive listing of rubber goods. Among the absentees in this edition are blackout equipment and air-raid sirens.

Machines Account Salary Purchase of Bonds

I ENJOYED READING THE MUNICIPAL INDEX reprint of "Modern Municipal Accounting and Office Appliances."

As you know, we installed in 1938 a modern tax billing and accounting system in our tax department, for which we use Remington-Rand accounting and tabulating equipment. The tabulating equipment is also used by our Water and Light Departments for accounting and billing purposes, and it is used for complete cost accounting in our public works department.

In our auditing department, we use Remington-Rand bookkeeping machines, and without very much additional work or expense we have just installed a complete plan for the purchase of defense bonds by our city employees under the pay roll allotment plan. We have a separate ledger account with each employee showing amount of his earnings and contributions and the bonds purchased. In addition, the employee is given with his pay roll warrant a complete statement as to the standing of his account.

Provision has been made for extending this system in case city employees are placed under social security or if the Federal Government should adopt a pay roll tax deduction plan. If either or both of these events occur, we have our records set up to meet the situation when it arises.

THEO. H. BERG,
Director, Accounts & Finance
Lincoln, Neb.

Police Solve Mystery Of Forgiving Drivers

Two automobiles moving west over the 155th Street viaduct near Eighth Avenue yesterday morning became caught in a fender-bumper tangle. The drivers stopped, got out of their cars and engaged in the customery argument. Then both walked away. Patrolman John Moriarty, of the West 135th Street station, discovered the abandoned machines. While waiting for a tow car, he checked the license numbers and discovered why the argument had not been prolonged — both cars had been stolen, one on Saturday and one on Sunday.

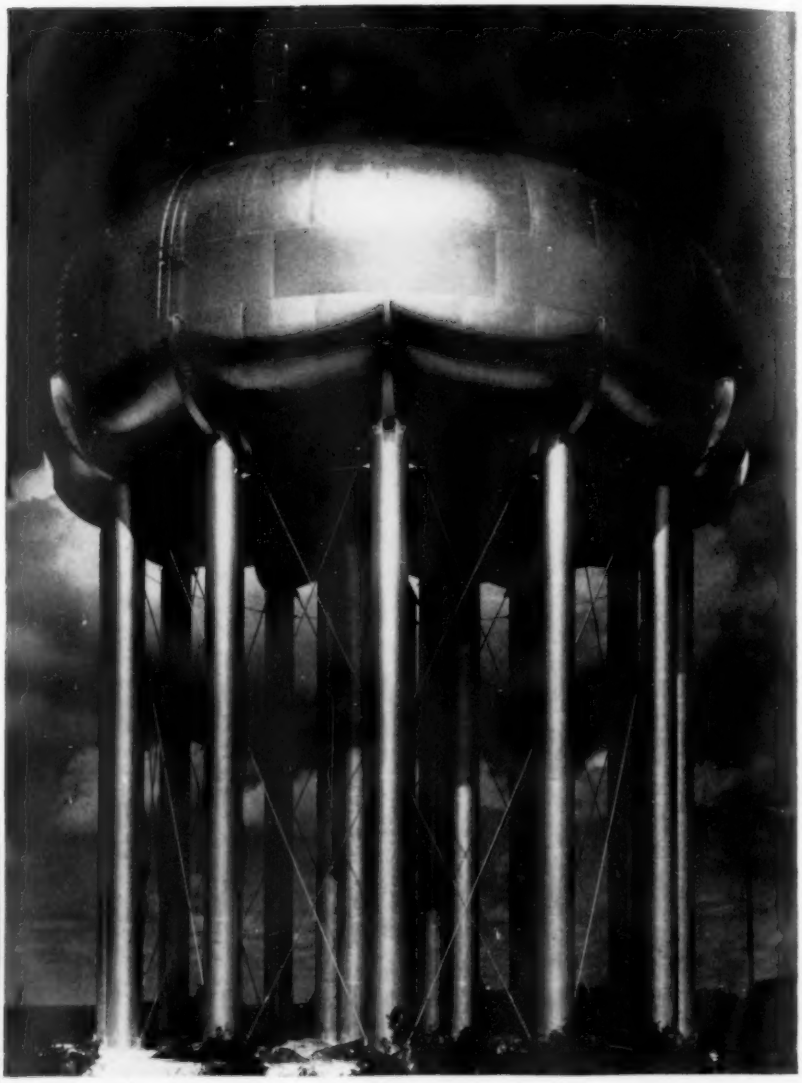
From "N. Y. Herald Tribune" of recent date

Free Parking Lots in Town

DECIDING IT IS CHEAPER to build off-street parking lots than to widen its narrow streets, Plymouth, Mich., population 5,360, has opened a free 100-car municipal parking space back of Main Street stores and is starting work on a second lot of 150-car capacity. The International City Managers' Association reports that the $9,000 cost of land and development was paid from general funds in the 1940-41 and 1941-42 budgets. The lot is supervised 14 hours a day by an attendant who also oversees a new comfort station. Supervision and general maintenance, including lighting at night, cost $1,000 a year. To encourage more widespread use of the free parking lots, the city is considering installation of penny parking meters on the main business street.

2 New HORTON ELEVATED TANKS

for the City of San Antonio Texas



With the completion of two new Horton elevated tanks in 1941, the City of San Antonio, Texas, has increased the storage capacity in its waterworks system to 5,230,000 gals. The largest of the two new structures, a 1,500,000-gal. radial-cone bottom tank, is illustrated above. This pleasing design does not include a conventional balcony, and carries the inner ends of the bottom girders on a cluster of tubular columns instead of one large central riser. It was installed in the southeast section of the city and will be used in conjunction with a 2,480,000-gal. Horton ornamental standpipe erected in 1930. The smaller tank, shown at the left, has a capacity of 250,000 gals. and provides northern sections with a more uniform pressure during peak periods.

San Antonio, which is now practically surrounded by military training centers, has a population of 286,000 people, whose needs range from 10 to 86 mgd. and average 24 mgd.

CHICAGO BRIDGE & IRON COMPANY

Chicago....2127 McCormick Bldg. Philadelphia.1616-1700 Walnut St. San Francisco...1033 Rialto Bldg.
New York...3308-165 Bway. Bldg. Washington.632 Washington Bldg. Houston.....5601 Clinton Drive
Cleveland.2236 Builder's Exchange Birmingham...1502 N. Piftieth St. Tulsa.....1625 Hunt Bldg.

Plants at BIRMINGHAM, CHICAGO, and GREENVILLE, PA. *In Canada:* HORTON STEEL WORKS, LIMITED, FORT ERIE, ONT.

During March we hope you will remember to mention THE AMERICAN CITY.

Water Works Operation

Government Outlines Procedure for Ordering Chlorine

IN THE OPERATION OF CONSERVING THE SUPPLY OF CHLORINE and directing its distribution, recent amendments to Utility Maintenance Order P-46 and Chlorine Allocation Order M-19 were issued by the Office of Production Management (recently absorbed by the War Production Board).

Amendments covering Utility Maintenance liberalize the conditions for determining the base of "minimum practical inventory" by allowing a choice of more than one computing date. The second amendment defines "minor" capital expenditures for equipment or material as "above ground" expenditures not exceeding $500, and "underground" expenditures not exceeding $1500. It further explains what is acceptable in regard to minimum practical inventory. Certain emergency situations, it is pointed out, occasioned by fire, flood, or other climatic conditions, may allow the limits of the order to be exceeded. Amendment No. 3 states in essence that new construction or expansion will be curtailed except where the value does not exceed the limits set forth in Amendment No. 2 mentioned above.

This amendment assigns preference ratings for the use of water works, sewage-treatment plants, sanitation and sterilization in hospitals and other public service establishments, and manufacturing establishments, to cover their purchases of chlorine only. Preference ratings for some of these are as follows:

Water and Sewage Treatment	A-2
Sanitation and sterilization in hospitals, clinics, sanatoria, dairies, swimming pools, restaurants, and the various medical, dental, and veterinarial uses	A-6

Management Studied by Water Works Men

MODEL FORMS OF WATER WORKS MANAGEMENT for municipal utilities are now under study by the American Water Works Association under the chairmanship of W. R. LaDue, chief engineer and superintendent, Bureau of Water Supply, Akron, Ohio.

The committee expects to limit its work to the formulation of principles relating to types of management. It plans a study of existing state and province laws governing permissible forms of water works, the extent of state supervision, and the economic and political freedom that these utilities can enjoy.

"Know Your City" Show Features Water Works

FROM DECEMBER 12 TO 16, 1941, THE CITY OF KANSAS CITY, MO., held a "Know Your City" Show in the great Municipal Auditorium which was the scene of one of the recent conventions of the American Water Works Association. More than 35,000 citizens of Kansas City attended this show. One-tenth of the entire area of 50,000 square feet of exhibition space was devoted to Water Department displays. These included a large-scale service map, together with operating models,

This transparent water meter readily demonstrated its operation to Kansas City's "Know Your City" Show

drawings and colored motion pictures showing the city purification plant and improved water softening methods. Cutaway water meters were used by employees in attendance to explain the interior construction of these instruments, while corroded and encrusted specimens were exhibited to emphasize the need for periodic meter inspection. A demonstration model of a Trident water meter constructed of Lucite and Plexiglas made water meter operation crystal clear to the many water consumers who visited this part of the exhibition.

All city departments participated in the show. Public interest was keenly manifested in the exhibits of fire, health, welfare, police, park, personnel, legal, finance, and purchasing departments as well as those of the Water Department. To City Manager L. P. Cookingham, who conceived and directed the exhibition, goes the major credit for this graphic demonstration of public improvements and progress made during the eighteen months of his administration. The accompanying illustration shows K. K. King, Director and M. P. Hatcher, Chief Engineer and Superintendent of the Kansas City, Mo., Water Department, discussing the Lucite Water Meter loaned by the Neptune Meter Co. for exhibition purposes.

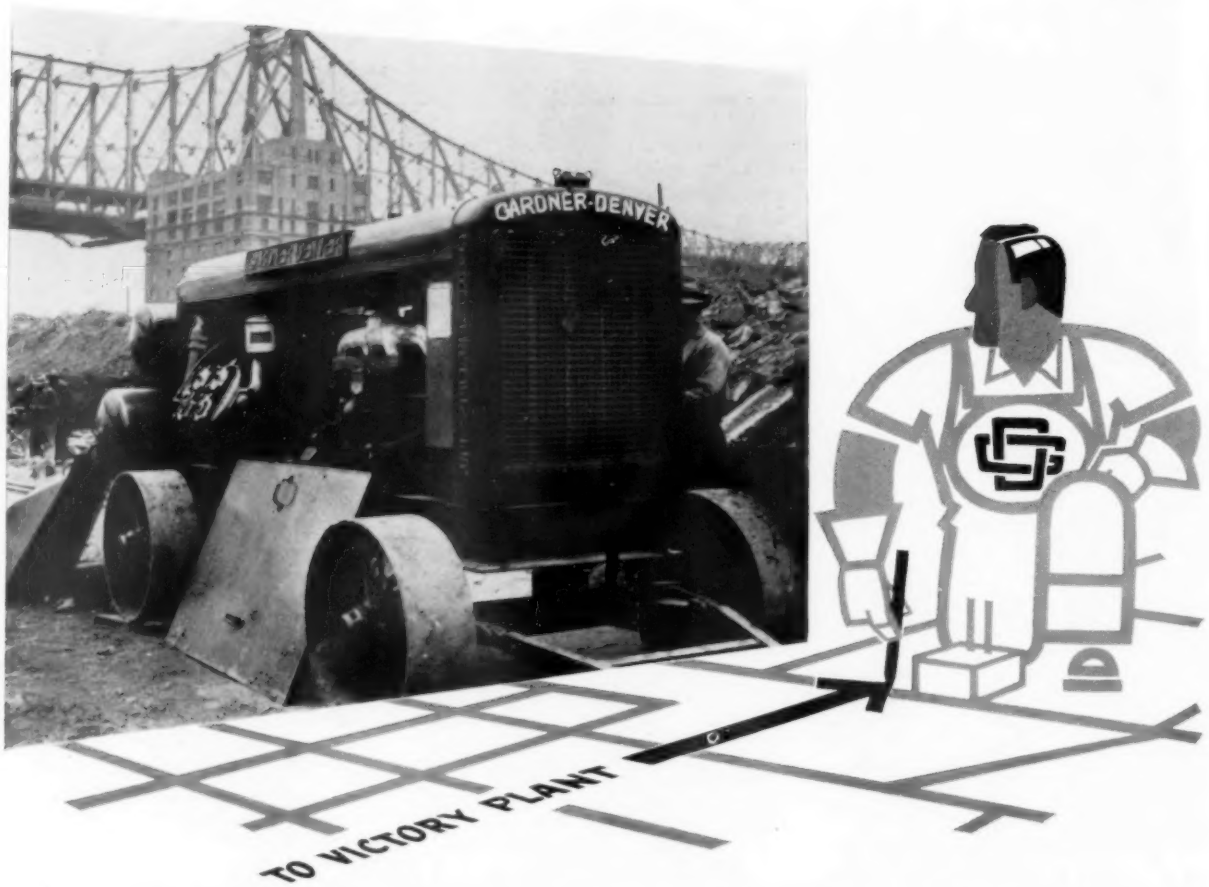
Chlorine and Compounds Available to Waterworks

BOTH GASEOUS OR LIQUID CHLORINE and hypochlorites still remain available for the treatment of potable waters. There is no intention on the part of the government to limit or curtail chlorine for this purpose.

Recently, rumors have circulated that the entire production of companies manufacturing standard 70 per cent chlorine hypochlorites such as HTH and Perchloron would be taken over by the armed forces, and that the continued production of sodium hypochlorite at prices equal to or near present prices would become uneconomical because of curtailment of chlorine in this form for textile bleaching and related purposes, thus forcing manufacturers to cease producing the sodium hypochlorites used for water treatment.

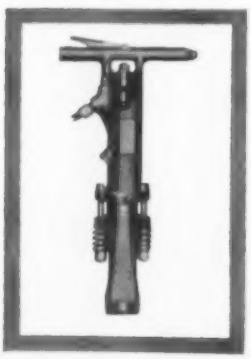
Information available on this subject, and recently confirmed by E. W. Reid, Assistant Chief, Chemicals and Allied Products Branch of the OPM in a letter to H. N. Armbrust of Proportioneers, Inc., Providence, R. I., is to the effect that priority rating of A-Z is still in effect and will continue to be.

There is at this time an increased drain on the supply of high-test calcium hypochlorite in dry powder or granular form. However, water-department and sewage-treatment plants are obtaining sufficient for their regular treatment needs. The drain results from demands of the armed forces and, of consequence, supplies are not generally available for storage. What the future availability of this material may be is uncertain, depending probably on the course of the war and whether or not poison gases will be used. Sodium hypochlorite solutions, in contrast, are available throughout the nation. A great volume of this is used for bleaching purposes in industrial plants. This may be curtailed except in places where the manufacturer carries high priorities.



Speeding New Roads To Victory!

● As Victory Plants mushroom on the outskirts of city after city—and new workers settle in undeveloped areas—existing facilities are often taxed to the utmost. New roads, new streets and bridges must be built—sewerage facilities must be expanded—new water mains and extra fire protection must be added. To help your crews speed all these jobs, and your regular work as well, Gardner-Denver Portable Air Compressors deliver full uninterrupted air output every day in the year—regardless of temperature extremes or weather conditions. Send for bulletins giving complete information—Gardner-Denver Company, Quincy, Illinois.



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1. SUSTAINED PERFORMANCE—Gardner-Denver Portables are built with completely water-jacketed cylinders—require no pampering—assure year 'round dependability for all your jobs.
2. COOLER AIR delivered by Gardner-Denver Water-Cooled Portables means less deterioration of air hose, longer life for air tools.
3. LUBRICATING OIL ECONOMY of Gardner-Denver Water-Cooled Compressors means substantial savings in operating costs.
4. A COMPLETE LINE—Gasoline and Diesel-driven models are supplied in a wide range of capacities.

← *EXTRA POWER GETS MORE WORK DONE PER DAY—a powerful striking blow, wear-resisting design, and easy riding qualities are combined in the Gardner-Denver B72H Paving Breaker.*

GARDNER-DENVER PRODUCTS HELP SPEED VICTORY

GARDNER-DENVER *Since 1859*

Mention THE AMERICAN CITY—it helps.

Sewers and Sewage Treatment

New Small Sewage Plant Built at Issaquah, Wash.

A NEW SEWAGE-TREATMENT PLANT of compact design has recently been completed at Issaquah, Wash., a community of 2,400 persons, to take care of the sewage and industrial and commercial wastes of the community. It has a capacity for treating 240,000 gallons of sewage per 24 hours. The principal units of the plant are two concrete tanks for settling the raw sewage, a trickling filter, and two digestion tanks for the sludge and drying beds.

The sedimentation and clarification tanks are 16 feet deep, with inverted cone bottoms and blades for collecting the sludge into a sump at the center, from which it is delivered by a sludge pump through an 8-inch pipe to the digestion tanks.

The digesters are circular, brick-faced structures, flanking the concrete building that houses the valve controls for the clarifiers and digester equipment. On top of the digesters are gas collectors from which the gas is piped to the laboratory and other buildings for heating purposes. Another concrete building houses the circulating pumps for the trickling filter and clarifier, and also the control laboratory and panel for electric equipment.

A total of $123,041 was spent by WPA on the project, with the sponsor, the town of Issaquah, contributing $53,540.

Connecticut Joins Interstate Commission

ON SEPTEMBER 17, 1941, THE STATE OF CONNECTICUT joined with New York and New Jersey in the war on pollution in the waters of the entire metropolitan area. A newly appointed Sanitation Commission from Connecticut signed the formal compact under which New York and New Jersey have been waging warfare on pollution for the past five years through the Interstate Sanitation Commission, which now becomes tri-state in character.

With the creation of the Sanitation Commission as a tri-state body, the objective of a campaign launched in 1931 has been attained. The proposal of a compact between the three states under which they could unite to combat the menace of pollution in the metropolitan waterways was first made ten years ago. Following more than two years of deliberation by a fact-finding committee representing all three states, a compact was prepared. It was approved first by New Jersey. Six months later the New York State Legislature gave the proposal its approval.

The consent of Congress was obtained, and just five years ago the Interstate Sanitation Commission began to function. It is now greatly strengthened in its work by the joining of Connecticut with New York and New Jersey.

Sewage Statistics from Illinois Cities

IN THE STATE OF ILLINOIS there are 376 cities served by sewer systems, representing a connected population of 5,875,879 people. Of the 376 municipalities having sewer systems, 299 are also served by sewage-treatment works. This represents a population of 5,426,512. The actual number of sewage-treatment works is only 266, for the rest serve two communities. Of these plants, 184 give complete treatment to the sewage, and 82 furnish only partial treatment.

Elizabeth, N. J., Stops Arthur Kill Pollution

A CEREMONY OF GENUINE IMPORTANCE occurred at midnight, November 30, 1941, when a bulkhead was broken at the Clarkson Avenue pumping station in Elizabeth, N. J., diverting the sewage which for years has flowed into the waters of Arthur Kill to the Joint Meeting treatment plant at Amboy Avenue, Elizabeth. The average daily flow of sewage which previously was discharged untreated, and now is to be treated in the plant, totals 7,000,000 gallons.

Action of the officials of Elizabeth, N. J., followed the issuance of an order by the Interstate Sanitation Commission directing the city to cease and desist from polluting Arthur Kill at this point. In a separate order, Elizabeth has been directed to undertake treatment at an early date to care for all additional sewage now being discharged by the municipality into the waters adjacent to the city.

Third Annual Convention
Federation of Sewage Works Associations
Hotel Statler, Cleveland, Ohio
October 13-17, 1942

Great progress is reported by the Commission, and the 7,000,000 gallons of Elizabeth sewage which now receive treatment add to the imposing total. There are now 77 sewage-treatment works in the Interstate Sanitation District, and 7 new treatment works are under construction.

Sewers and Treatment of Greensboro Sewage

ACCORDING TO THE ANNUAL REPORT OF MUNICIPAL ACTIVITIES IN GREENSBORO, N. C., for the fiscal year ending June 30, 1941, a total of 406 new sewer connections were made during the year, and the construction of 11 miles of new sewer mains was nearing completion.

The flow of sewage to the South Buffalo treatment plant, which has separate sludge digestion and trickling filters, has increased from 1.864 million to 2.015 million gallons daily. The efficiency of the plant is shown by the following reductions: 5-day BOD, 85.5 per cent; suspended solids, 86.0 per cent; dissolved oxygen in the effluent, average 4.5 parts per million. The total operating cost for the plant was reduced from $10.76 per million gallons to $9.94 per million gallons of waste treated.

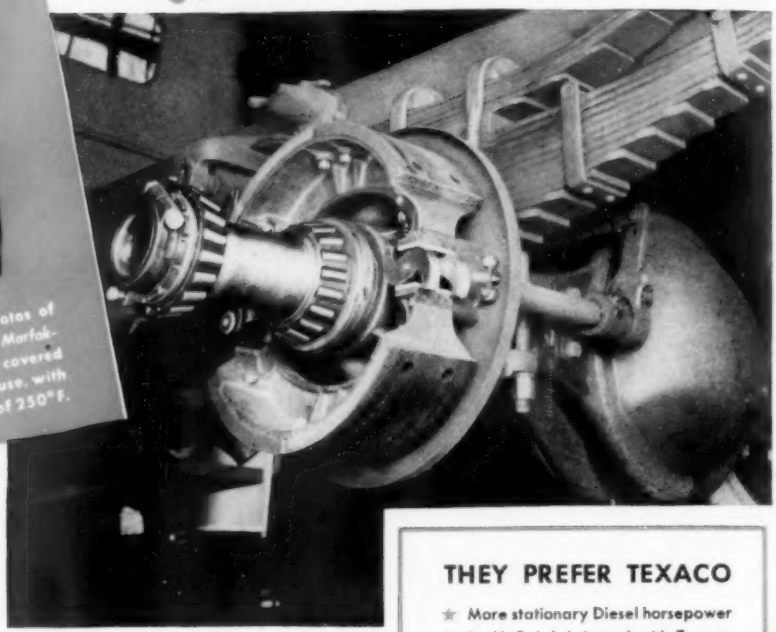
At the North Buffalo treatment plant, where activated sludge and chemical treatment are employed, the textile wastes have increased progressively in volume until they represented 22.7 per cent of the total flow entering the plant in June, 1941, or a volume of over 43,000,000 gallons. The increase in volume is attributable to greatly increased mill operations and has introduced new problems in treatment. Additional chlorine and lime feeding facilities have been installed to meet the increasing load. The gas production for the year was satisfactory, furnishing a quantity sufficient to produce 65.2 per cent of all power used.

The tabulation below shows some interesting data on the Greensboro plants:

Total combined wastes treated	2,022,500,000 gals.
Total dye wastes treated	270,864,000 gals.
Average combined wastes treated daily	6,475,000 gals.
Cubic feet of gas generated	23,445,411
Per cent power generated in plant	65.2%
Cubic feet of air per gallon of sewage average	1.22
Reduction 5-day BOD	81.8%
Reduction of suspended solids	78.5%
Dissolved oxygen in effluent	1.3%

One lubricant for all Seasons

AFTER 34,000 MILES, unretouched photos of wheel bearings lubricated with Texaco Marfak-Heavy Duty. Note that all rollers are well covered with lubricant, despite 8 months' hard use, with hub temperatures averaging upwards of 250° F.



HUNDREDS OF THE COUNTRY'S largest fleet operators have stopped changing of wheel-bearing lubricant seasonally . . . they are now using *Texaco Marfak Heavy Duty.*

Texaco Marfak Heavy Duty lubricates effectively winter and summer . . . doesn't leak out at highest operating bearing temperatures. It keeps off brakes, assuring safer braking in all seasons.

The outstanding performance that has made Texaco preferred in the fields listed in the panel has made it preferred on prominent construction jobs throughout the country.

These Texaco users enjoy many benefits that can also be yours. A Texaco Automotive Engineer will gladly cooperate . . . just phone the nearest of more than 2300 Texaco distribution points in the 48 States, or write:

The Texas Company, 135 East 42nd Street, New York, N. Y.

THEY PREFER TEXACO

★ More stationary Diesel horsepower in the U. S. is lubricated with Texaco than with any other brand.

★ More Diesel horsepower on streamlined trains in the U. S. is lubricated with Texaco than with all other brands combined.

★ More locomotives and cars in the U. S. are lubricated with Texaco than with any other brand.

★ More revenue airline miles in the U. S. are flown with Texaco than with any other brand.

★ More buses, more bus lines and more bus-miles are lubricated with Texaco than with any other brand.

FOR YOUR ENJOYMENT
Two Great Radio Programs

FRED ALLEN every Sunday night. See your local newspaper for time and station.

METROPOLITAN OPERA. Complete broadcasts of great operas every Saturday. See your local newspaper for time and station.

TEXACO REG. T.M.

TEXACO Lubricants and Fuels
FOR ALL CONTRACTORS' EQUIPMENT

RETURN METAL DRUMS PROMPTLY . . . thus helping to make present supply meet industry's needs and releasing metal for War Needs.

Public Health

Infectious Disease and Modern War

THE HISTORY OF WARS before the twentieth century is characterized by accounts of the great ravages of typhus fever, smallpox, typhoid fever, dysentery, malaria, cholera, and bubonic plague. In modern warfare, influenza and other respiratory affections, cerebrospinal meningitis, and venereal diseases are apparently of outstanding importance. While the historic pestilences remain lurking dangers, controlled chiefly by the unremitting application of the principles of sanitation and immunology, it is unlikely that they will again be responsible for most of the mortality of wartime.

Infections invariably killed more soldiers than did bullets until, in the Franco-Prussian War of 1870, the German Army recorded an excess of deaths from battle. In the Russo-Japanese War of 1904 both sides maintained the higher proportion of deaths from wounds. In spite of the toll of influenza, the war of 1914-18 was the first in which United States fighting forces participated with fewer deaths from sickness than from battle, although for the entire army, at home and abroad, the deaths from disease were preeminent.

During and after the war of 1914-18 the common war diseases were highly prevalent in eastern Europe, and there was a vicious pestilence of typhus fever throughout Russia, Poland, and Serbia. Typhus did not spread in western Europe in these war years, and the classic infections did not constitute the major sickness problems among fighting forces or civilians. The influenza pandemic overshadowed all others, and the mortality from influenza and pneumonia recalled the ravages of the Black Death. Cerebrospinal meningitis reached new heights, and tuberculosis and venereal disease increases caused grave concern.

In the United States Army influenza, venereal diseases, mumps, and measles were the most frequent causes of absence from duty, and influenza, tuberculosis, measles, and cerebrospinal meningitis were leading primary causes of death. The army in the United States had generally higher rates for admission and days lost from duty for the infectious diseases than did forces abroad. The United States Navy also suffered from the communicable diseases, with a notably higher incidence in the training camps than on shipboard.

In the present war, influenza and cerebrospinal meningitis are again showing increased incidence, both for the Continent and the British Isles. Typhus fever and dysentery have been active in eastern Europe.

The evacuation of school children did not result in the expected increase in the communicable diseases of childhood in England, and for the most part the health of the people has not been seriously affected. The hazards of infection have, however, been intensified by the crowding of the bomb shelters. Not only influenza and cerebrospinal meningitis, but also paratyphoid fever and dysentery showed increases in 1940 in comparison with figures for 1939.

In the control of disease as in the fighting of battles, the experience of the past can provide no rigid rules for present victory. Nevertheless, an appreciation of former problems may facilitate their solution in later experience. The changed character of the leading infectious diseases of war, with relegation to the background of the scourges of the past, may be considered a heartening reflection of the results of scientific research and control.

—From an article, "War and Infectious Disease," by CLARA E. COUNCELL, Junior Statistician, United States Public Health Service, in *Public Health Reports*, March 21, 1941.

Public Health Nursing Program in Dayton, Ohio

FOR MORE THAN 25 YEARS DAYTON has had a generalized public health nursing program; yet few people in the community, and fewer outside, realize the value of such a program and how it functions. The agency responsible for carrying out this program is The Visiting Nurse Association working with the Division of Health of the Department of Public Welfare.

The Visiting Nurse Association has its Board of Directors, which establishes policies and practices for all members of the staff, with the Director of Public Welfare and the Commissioner of Health serving in an advisory capacity.

The staff is composed of 37 graduate registered nurses, one bookkeeper, and one stenographer, all working from one office and under the Director of Nurses. Twenty-one staff nurses and a stenographer receive their salaries from the public funds of the city of Dayton, while nine nurses, one bookkeeper, four supervisors, the Director of Nursing and her assistant are paid by The Visiting Nurses Association, which receives its financial support from the Community Chest, and service fees from individuals and insurance companies. One nurse who works at the Public Health Clinic receives her salary through Social Security funds.

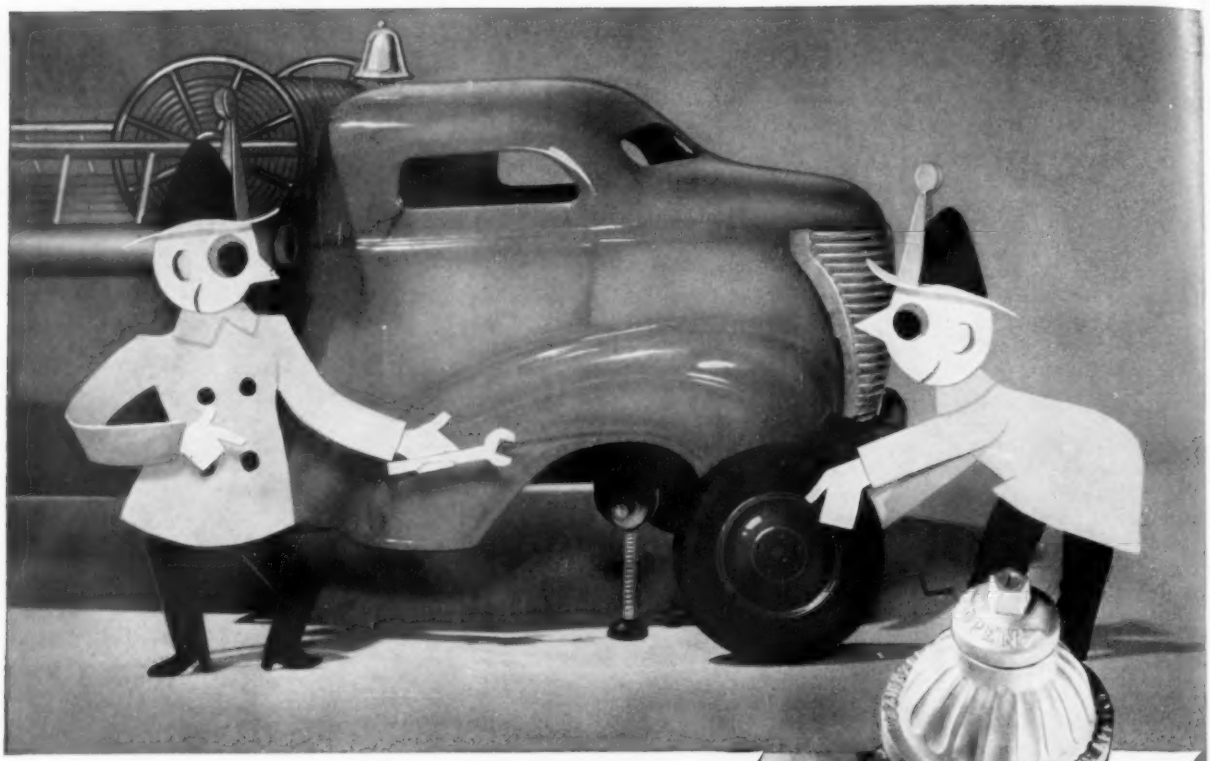
The city is divided into 28 districts, and one nurse is made responsible for all nursing service in the district to which she has been assigned. Two nurses are on full-time duty at the Public Health Clinic, while staff nurses rotate on part-time service at the same clinic. The program includes morbidity service or bedside care; maternity service; service to the handicapped and crippled; health supervision; communicable diseases control, including tuberculosis and venereal diseases; and assisting with physical examinations in parochial schools.

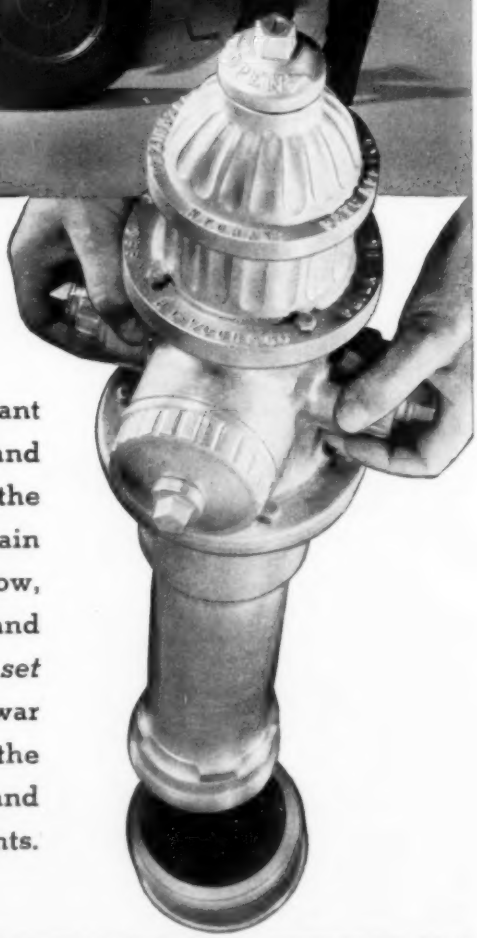
The Division of Health is responsible by law for the control of communicable diseases, including tuberculosis and venereal diseases; therefore, all activities in that service must be carefully planned with, and carried out under, the direction of the Health Commissioner.

City Health Departments interested in the details of the functioning of this unusual association which has been so successful for a quarter of a century in Dayton, should communicate with Dr. H. H. Williams, Commissioner of Health, or Edward V. Stoecklein, Director of Public Welfare, Dayton, Ohio.

Sanitary Inspections in Greensboro, N. C.

SANITARY OFFICERS OF THE DEPARTMENT OF HEALTH OF GREENSBORO, N. C., during the fiscal year ending June 30, 1941, scored all restaurants supplying foods to the city at bi-monthly intervals. Meat markets were also scored every other month. All dairies supplying milk to the city were visited each month, and samples were secured at least once each month for bacteriological and chemical examinations in the laboratory. If the bacteria count and butter-fat content were not satisfactory, a recheck was made immediately. During the year, 1,750 visits were made to food-handling establishments, 770 visits to dairy farms, and 288 visits to milk plants. A total of 841 milk samples were taken during the year. This was in a city with an area of 18.06 square miles and a population of approximately 60,000.





"EASY AS FIXING A MATHEWS HYDRANT, ISN'T IT?"

Changing a tire and replacing a Mathews Hydrant are very much alike. Just remove the "works" and replace it with a spare. In a Mathews Hydrant the barrel contains all working parts including main and drain valve seats. It unscrews from the elbow, lifts out through the loose protection case and means that *you never have to dig a properly set Mathews Hydrant.* Fire protection is vital in war time. Give your community the speedy repair, the frost protection, the absolute dependability, and the permanent economy of Mathews Hydrants.

MATHEWS HYDRANTS

Made by R. D. WOOD Company

400 CHESTNUT STREET, PHILADELPHIA, PA.

ESTABLISHED IN 1803

Public Safety

TO THE TAXPAYERS OF LANSING:

Your City Government takes this opportunity to report to you

PARKING METERS

THE CITY COUNCIL VOTED TO BUY PARKING METERS ON THE 6 MONTHS' TRIAL PERIOD BEGINNING JUNE 15, 1940. THE VOTERS APPROVED THE RETENTION OF THE METERS ON NOVEMBER 4, 1940. 636 METERS WERE PUT INTO OPERATION JUNE 15, 1940. BELOW IS A SUMMARY OF THE INCOME AND EXPENSES CONCERNING PARKING METERS:

TOTAL RECEIPTS JUNE 15 TO NOVEMBER 14	$18,438.70
PAID TO PARKING METER CO. ON CONTRACT	10,965.55
RETAINED BY CITY OF LANSING	$ 7,473.15
BALANCE DUE PARKING METER CO.	$ 3,492.40
SALARIES, WAGES AND EXPENSES IN OPERATING THE METERS TO DATE (1)	$ 1,559.81
PAINT FOR MARKING STREETS HAS BEEN PURCHASED IN THE AMOUNT OF	72.84
TRANSFERRED TO THE TRAFFIC DEPARTMENT FOR WAGES FOR A SERVICE MAN FOR THE BALANCE OF THE FISCAL YEAR	189.76
AFTER DEDUCTING THE ABOVE ITEMS THERE REMAINS IN THE PARKING METER ACCOUNT	$ 4,725.91

PARKING METERS WERE INSTALLED FOR THE PURPOSE OF REGULATING PARKING IN A MANNER WHICH WOULD GIVE OPPORTUNITY FOR PARKING TO AS MANY PEOPLE AS POSSIBLE. THE IDEA OF SHARING OUR PARKING PLACES WITH EACH OTHER COINCIDES WITH THE IDEALS OF DEMOCRACY. THE FINANCIAL STATEMENT ABOVE INDICATES THAT THE PARKING METERS WILL PRODUCE REVENUE. YOUR CITY GOVERNMENT IS COMMITTED TO THE POLICY OF EXPENDING SAID REVENUE IN THE OPERATION AND SERVICING OF THE METERS AND IN PROVIDING PARKING SPACE AND TRAFFIC SAFETY DEVICES IN ORDER THAT ALL CITIZENS MAY BE CONVENIENTLY AND SAFELY SERVED.

SAM STREET HUGHES,
MAYOR

MARSHALL S. GRAHAM, CHAIRMAN
RALPH W. CREGO
HAROLD W. HUNGERFORD
CHARLES J. LARKIN
ARTHUR E. STOFFEL
SPECIAL PARKING METER COMMITTEE.

Painted Hydrants Help Fire Companies

SIXTEEN THOUSAND FIRE HYDRANTS IN THE BOROUGH OF QUEENS, NEW YORK CITY, will be protected against corrosion and made more quickly identifiable in emergencies through a new WPA painting program launched in December at the request of Queens Commissioner Richard Ankener of the Department of Water Supply, Gas and Electricity.

All hydrants along the borough's streets and highways which are a part of the city-owned water-supply are being painted. They also furnish protection at Fort Totten, Fort Tilden, and at many factories.

Coats of red lead are being applied to hydrants, which have not been painted in many years, followed by coats of distinctive colors and stenciling to indentify the types of mains they tap. Hydrants connected with 48-inch mains are painted a bright red, while all those of smaller diameter are being given a coat of black up to the dome, which are being painted light gray, replacing the aluminum formerly used in painting hydrant tops.

On each hydrant are being stenciled in 4- to 6-inch numerals the diameter of the main with which it connects. The stenciled numerals will make it easy for fire companies to locate large-diameter mains in a hurry at night, even in blackouts.

$35 Per Month for New Parts for 1,908 Meters

IN SALT LAKE CITY, UTAH, meters were installed in the most congested business districts in order to regulate parking, to put a ban on all-day parking, and to avoid double parking, cruising, and other annoying practices.

We have some 1,908 Miller meters installed and the average monthly cost for replacing parts runs about $35.

Gross revenues for 1940 were $147,859.17; for the ten months to October 27, 1941, $123,857.78.

MILTON E. LIPMAN,
City Treasurer.

Fighting Pier Fires

PIERS ARE NOT ACCESSIBLE TO LAND FIRE-FIGHTING COMPANIES except at one end. It therefore becomes necessary to fight pier fires by means of fire boats, which can also serve as tug boats to remove ships that are loading and unloading, to prevent their ignition. A type of fire boat which is now of great value has a pumping capacity of 4,000 or 5,000 gallons a minute, can maneuver with great ease suitable for river work, and costs $60,000.

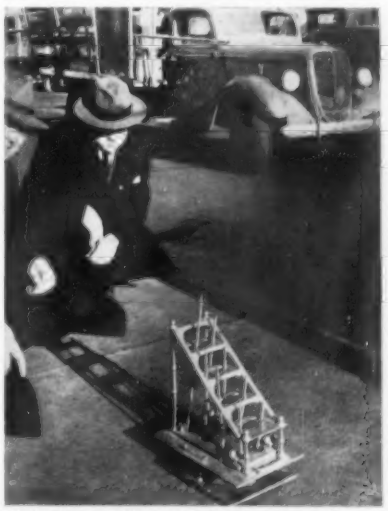
GEORGE W. BOOTH,
Chief Engineer, National Board of Fire Underwriters, 85 John Street, New York.

Testing for Traffic Vibrations

WHEN residents along St. Paul's Central Avenue recently complained that trucks passing down the street were causing excessive vibration which was shaking their homes, Milton Rosen, Commissioner of Public Works, was called upon to solve a difficult problem. There had previously been wholesale complaints from residents in various parts of the city about vibration caused by heavy transport trucks. Following a series of hearings conducted by a city council committee, the city established fixed routes and streets to which heavy transport trucks were confined. And despite the fact that Central Avenue was off the routes which transport trucks could still travel, complaints continued to come in. A number of residents were demanding that all traffic except pleasure vehicles and the most necessary delivery trucks be excluded.

To determine the exact extent of the vibration on Central Avenue, Mr. Rosen and City Engineer George M. Shepard borrowed a lesson from the quarrying industry. The latter, afflicted by frequent suits for damages arising out of blasting operations, developed in past years an instrument called a "falling pin" seismograph as a means of demonstrating the extent of vibrations, often exaggerated by complainants. This apparatus, which is portable, consists of a series of ¼-inch brass rods of varying lengths set upright on a small horizontal piece of plate glass. The glass is set into a brass framework mounted on four screws so that it can be adjusted to a perfect horizontal level. A sort of "umbrella stand" is built up from this horizontal framework so that rods, when toppled by vibration during testing with the machine, do not knock each other over. The rods vary in length from 4 to 16 inches. The operation of the equipment is designed so that laymen can easily grasp it—the tallest rod topples with the least vibration and as the vibration grows in intensity shorter rods fall. The shortest rod requires the greatest disturbance to knock it over.

Using this "falling pin" seismograph, Commissioner Rosen and City Engineer Shepard made actual tests in the Central Avenue homes of citizens who had voiced the strongest complaints. In these tests not even the tallest pins were toppled, convincing proof to them and to most of the complainants that the so-called "allergy" of Central Avenue to normal vehicular traffic was not excessive; that, in fact, it did not exist.



With the "Falling Pin" Seismograph, extremely heavy vibration causes the shortest rods to topple against their "collars"; light vibration disturbs only the tallest rods

Here's What Signal Engineers Do on the Civic Front...

ANNOUNCEMENT . . . This is the first in a series of bulletins . . . based on reports from Municipal Signal Engineers all over the country . . . prepared to help you plan adequate civic defense.

For EMERGENCIES...

To Restore Service Quickly on FIRE..POLICE..CONTROL SIGNAL CIRCUITS

Keep Spare Lengths of SPIRALWEAVE Type Cable on Hand

These wartime days your regular signal service may be knocked out. But you can be ready at a moment's notice to restore this crucial service to peak efficiency . . . and in the shortest possible time. Simply have extra lengths of Hazard Spiralweave on hand.

Here's Why Hazard Spiralweave Does This Job

FAST INSTALLATION . . . Hazard Spiralweave is light in weight, flexible, easy to splice and connect. It can be quickly strung while the repairs are made on the underground circuits. As many conductors as you require can be built into one small compact cable. Its construction meets I.M.S.A. Specifications.

DURABILITY . . . Spiralweave covering is tough and strong . . . has lasting wear-resistance . . . is thoroughly waterproofed for protection against storms. Spiralweave Cable can be taken down when the emergency is over, and used any number of times.

Our engineers will be glad to consult with you about your requirements for Hazard Spiralweave Cable. We suggest you act as soon as possible because of the difficulty in supplying the vast defense needs for insulated wires and cables.

For perfect splices and terminals —use Okonite and Manson Tapes.

HAZARD INSULATED WIRE WORKS
DIVISION OF THE OKONITE COMPANY
Works: Wilkes-Barre, Pennsylvania
Offices in Principal Cities

HAZARD INSULATED WIRES AND CABLES

Keep Up-to-Date on New Equipment

Please check over the following list of interesting catalogs obtainable free of charge and either write direct to the manufacturers for their literature, or, if you prefer, put a circle around the identifying numbers below to indicate the catalogs you want, mail this coupon to The American City Magazine, 470 Fourth Ave., New York, and we will see that the catalogs are sent to you without expense or obligation on your part. 2-42

138 139 140 141 142 143 144 145 146 147 148
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Name ..... **Position** .....

Address .....

Asphalt Heaters and Weed Burners

138. A free 80-page catalog of industrial burners such as asphalt heaters, winter construction heaters, weed burners, etc., has recently been issued by the Aeroil Burner Co., Inc., West New York, N. J. Ask for Catalog No. 200A.

Economical Storage of Liquids

139. For safe, low-cost storage of all types of liquids, the Pittsburgh-Des Moines Steel Co., 3412 Neville Island, Pittsburgh, Pa., requests you to investigate tanks described in their Bulletin No. 502. These tanks are either of welded or riveted construction.

Sewage Plant Layout

140. Because of emergency requirements, many sewage-treatment plants must be modernized and enlarged, and in many localities new plants must be built. The Jeffrey Mfg. Co., 970 No. Fourth St., Columbus, Ohio, manufacturers of sewage- and water-treatment plant equipment, offer the services of their sanitary engineers. Write to them for free advice in regard to the best set-up for your plant.

Municipal Accounting During the Emergency

141. Additional accounting loads have been thrust onto many communities by expanded local industries or other defense activities. The Burroughs Adding Machine Co., 6144 Second Ave., Detroit, Mich., suggests that you write for complete information on how to solve these municipal accounting problems in the most efficient and economical manner.

Efficient Laboratory Control

142. Water treatment is as good as the control that the operator can exercise over it. To assist in planning the laboratory, E. H. Sheldon and Co., 740 Nims St., Muskegon, Mich., invites you to write for their catalog of laboratory furniture.

Valves and Hydrants

143. Complete valve equipment for water works filtration and sewage-disposal plants, and also the latest "Corey Type" hydrants are described in the catalog of the Iowa Valve Co., Hubbell Bldg., Des Moines, Iowa.

Concrete Pressure Pipe

144. Engineers and city officials planning construction of pipe lines requiring water tightness, strength, high carrying capacity, long life, low maintenance, and overall economy are invited by the Lock Joint Pipe Co., Ampere, N. J., to write them regarding the Lock Joint Reinforced Concrete Pressure Pipe. This type of pipe is recommended for pressure sewers and subaqueous culvert work as well as water lines.

Pumping Requirements

145. An examination of the present pumping equipment in many municipalities would show that modernization of this equipment actually would effect savings great enough to refund the cost of the improvement as well as give improved trouble-free service. Allis-Chalmers point to many installations of their pumps making big savings on both big and little jobs. For complete information regarding pumping problems, write to Allis-Chalmers Mfg. Co., Milwaukee, Wis.

Water Meter Working Records

146. The Buffalo Meter Co. has compiled a list of the working records of water meters made by their firm over a period of years. This record, valuable as a guide for meeting water meter requirements, is available by writing the Buffalo Meter Co., 2902 Main St., Buffalo, New York.

Distinctive Air Raid Alarms

147. Air raid alarms should be recognizable and distinctive from police, fire, and other alarms. Supersignal Corp. has designed alarms specifically for air raid purposes. For detailed information write them at 25 Beaver St., New York City.

Multiple-Use Street Flusher

148. E. D. Etnyre and Co., Oregon, Ill., have developed a street flusher able to handle many varying duties. As well as street flushing and sprinkling, it finds use in sewer cleaning, pumping out basements, fire fighting and tree spraying to mention a few. Write for Bulletin No. 306 for further information on this equipment.

Asphalt Wearing Surface Improvement

149. Developing a new type of equipment for placing asphalt wearing surfaces known as the Universal "Chiptop" Spreader-Roller, the Universal Crusher Co., 642 C Ave West, Cedar Rapids, Iowa, states that it is possible to place this surface at rates up to as high as one mile an hour. If you are confronted with a problem of asphalt construction, write them for literature.

Fence for Public Property Protection

150. While perhaps not the complete answer, strong man-proof fencing is finding ever-increasing service in the protection of public property. If you have a fencing problem, write to The Stewart Iron Works Co., Inc., 821 Stewart Block, Cincinnati, Ohio.

Meeting Pumping Requirements

151. Municipalities find unusual pumping requirements being forced upon their water works systems, particularly if they are located in defense or manufacturing centers. The Peerless Pump Division of the Food Machinery Corp., 335 West Ave., Los Angeles, Calif., offers free literature that will assist in solving some of these problems.

Small Diameter Anti-Freezing Hydrants

152. When hydrants are needed of 1¼-inch to 2-inch size that will operate at any season of the year, the catalog of Murdock Mfg. and Supply Co. is of special interest. You may obtain this catalog by writing to 426 Plum St., Cincinnati, Ohio.

Street Lighting Lamps

153. The problem constantly occurs to the city engineer of how to provide dependable street light in accordance with modern practices and still maintain a reasonable cost. Slater Electric and Mfg. Co., Inc., will assist you in setting up your street-lighting program. Write to them at 728 Atlantic Ave., Brooklyn, N. Y., for literature regarding modern street lighting.

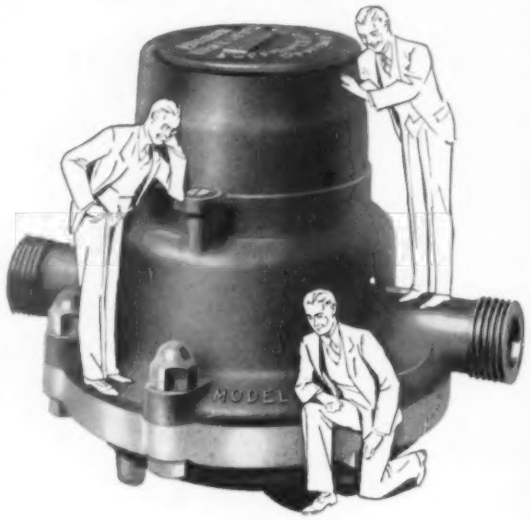
Restore Capacity of Pipe Lines

154. New defense activities require municipalities to extend existing supply lines. To obtain the most service from these extensions, and at the same time to increase the general efficiency of the entire system, clean lines are advisable. Flexible Underground Pipe-Cleaning Co. offers to show you how to do this job quickly and on a lower-cost basis. They suggest that you write for a free copy of data showing costs of such work, and how it is performed. Their address is 9050 Venice Blvd., Los Angeles, Calif.

Sewer and Conduit Coupling

155. Information regarding double-lock couplings for sewer and conduit work is available from the Seeger Device Co., 3529 Watson Ave., Toledo, Ohio.

(Continued on page 18)



WHAT RATES "OK" WITH YOU AT METER BUYING TIME?

Is it details of engineering, simplicity of construction, laboratory perfection of operation, freedom from upkeep expense—or the sensible balance of them all?

Is it price or performance—or the proper combination of both?

Is it just one mechanical feature—or the correct balance of all desirable meter features in the most satisfactory working combination?

If you would have the balanced facts on meter buying, a word by mail or wire will place them on your desk.

AMERICAN & NIAGARA
Water Meters

BUFFALO METER CO.
First-Quality Meters Exclusively
2902 Main Street
Buffalo, N. Y.

WHICH OF THESE CATALOGS WOULD YOU LIKE?

(Continued from page 17)

Water for War Needs

156. If you are in doubt regarding the adequacy of your water supply, write to Layne and Bowler, Inc., Memphis, Tenn. Their engineering staff will at no obligation advise you regarding water bearing formations, size of wells, and the type of pumps to meet your requirements.

Airport Wiring

157. How to provide modern safe facilities for vital night traffic on a busy airport and yet stay within a limited budget is a problem confronting most airport managers. Hazard Insulated Wire Works offers a service that they think will help solve this. For complete information about underground cables for airport wiring write to the Hazard Insulated Wire Works, Wilkes-Barre, Pa.

Making Pre-Cast Pipe

158. Construction of pre-cast concrete pipe in diameters of from 12 to 48 inches and in varying lengths may be included in a municipality's program to round out periods of slack work by their regularly employed staff. The Quinn Wire and Iron Works, 1623 12th St., Boone, Iowa, offers complete information on pipe forms and concrete mixing formulae.

Conserve Existing Streets

159. The importance of retaining in as good condition as possible all existing municipal services is emphasized each day. The Allis-Chalmers Mfg. Tractor Division, Milwaukee, Wis., suggests that city officials write them regarding the economical W-Speed patrols, which operate at a much reduced cost and are able to do most of the work of the heavier units including ditching, oil mix, and numerous other jobs.

Early Strength Concrete

160. Emergency jobs are now common where the value of a few days saved cannot be estimated in dollars. The Calcium Chloride Assn., 4145 Penobscot Bldg., Detroit, Mich., offers a new free manual "Early Strength Concrete" that discusses, from authoritative research papers and actual practice, concrete work on large and small jobs. Write to them for your copy.

Master Water Meters

161. Water works superintendents and officials fully realize that it is only good business to know, through a master meter, the actual output of their water plant. Bulletin 307 of R. W. Sparling, Box 3277 Terminal Annex, Los Angeles, Calif., explains the direct action meter produced by this firm.

Low Cost, Long-Lasting Pipe

162. Asbestos-cement pipe offers the answer to some perplexing water works problems. Johns-Manville Transite Pipe may be laid with relatively unskilled crews. The smooth interior increases the capacity. Tuberculation is eliminated, and corrosion is reduced to a minimum. Write to Johns-Manville, 22 E. 40th St., New York City, asking for brochure TR-11A.

F-M Police Radio Equipment

163. Utilizing new developments in radio, RCA Manufacturing Co., Inc., Camden, N. J., has developed new and efficient police radio transmitters. RCA suggests that officials write them for radio literature and advice on their radio needs.

Emergency Motorcycle Protection

164. Increased municipal protection demands are requiring the services of rugged, fast, dependable motorcycle equipment. Power stations, dams, bridges, and other vital municipal services are often best served by mobile motorcycle guards. Write to the Harley-Davidson Motor Co., Milwaukee, Wis., for information on how these motorcycles can best fit into your municipal needs.

Quick, Safe Evacuation Method

165. The Evacuator, an adaptation of the famous portable models now in use by fire departments throughout the nation, is now being offered for permanent installation in buildings. It offers a quick, safe method of evacuating persons from burning or gas-filled buildings with a minimum of manpower. Fully illustrated literature is available from the E & E Manufacturing Co., Fisher Building, Detroit, Mich.

Municipal Training Courses

166. With the war effort drawing heavily on existing municipal personnel, many city officials find themselves thrown into new and unfamiliar work. To improve themselves in their work and to prepare themselves for possible advancement, many officials are taking advantage of the correspondence courses offered by The Institute for Training in Municipal Administration, 1315 E. 60th St., Chicago. Write the Institute for special circular.

(Continued on page 19)

WHICH OF THESE CATALOGS WOULD YOU LIKE?

(*Continued from page 18*)

A Small Plant Sewage Meter

167. A simple, trouble-free, and economical meter should be an essential part of every small sewage-treatment plant. Builders-Providence, Inc., 9 Codding St., Providence, R. I., invite you to write them for Bulletin 334 covering the Kennison Nozzle that will accurately measure raw sewage, sludge, or effluent.

Traffic Safety During Blackouts

168. Traffic engineers throughout the nation recognize the importance of safety measures, especially in the coast areas and near army camps, during blackouts. The Western Cataphote Corp., Wall St., Toledo, Ohio, invites you to write for information about the Cafaphote Reflector Buttons. These reflectors, it is pointed out, are not visible from the air but are highly visible to motorists.

Blackout Traffic Signals

169. To facilitate the handling of traffic during a blackout, the Eagle Signal Corp., Moline, Ill., developed a traffic signal to meet this requirement. No masks or other makeshift accessories are required and it will operate with all makes of controllers. Write to the General Office at Moline for additional information and quotations.

Pipe Tools or Pipe Machines

170. A new 28-page catalog has been issued by the Beaver Pipe Tools, Inc., covering a complete line of portable pipe and bolt cutting and threading machines, tools and power drives. Pipe cutting and threading tools, pipe reamers, vises, and other tools are included in this catalog. You may obtain a copy by writing to Beaver Pipe Tools, Inc., Warren, Ohio.

A New Test Plug

171. The Test Plug Mfg. Co. of Skokie, Ill., will send their circular covering test plugs for use in testing all kinds of mains conveying water, gas, oil, or air. This plug, they state, may be installed by any common laborer and will withstand pressures up to 300 lbs. hydrostatic.

Asphalt and Tar Kettles

172. Fire-proof, oil burning, hand, or motor-driven asphalt and tar kettles are offered by the White Mfg. Co., Elkhart, Ind., in a wide variety of sizes. Write to them for their catalog.

Complete Swimming Pool Equipment

173. A complete line of high quality swimming pool equipment is carried by the American Playground Device Co., Anderson, Ind. This equipment, they stress, is skillfully produced by engineers of long successful experience. Catalogue No. SP-19 is available free and describes these units.

Fire Engines in War Dress

174. Cooperating with the war effort, fire engines are now eliminating the use of such materials as nickel, chromium, copper, and stainless steel and yet are retaining full effectiveness of fire-fighting performance. The American-LaFrance-Foamite Corp. will supply literature covering protection that you may need against fire. Write them at Elmira, N. Y.

Getting Results in Park Spraying

175. To do a more effective job of park spraying and insect control has always been one of the problems of the municipal park commissioner. The John Bean Mfg. Co. offers sprayers of advanced design and construction which will help meet this problem. The special Park Sprayer satalog may be obtained by writing this company at 5 Hosmer St., Lansing, Mich., or 105 West Julian St., San Jose, Cal.

Pipe Pusher Reduces Pipe-Laying Costs

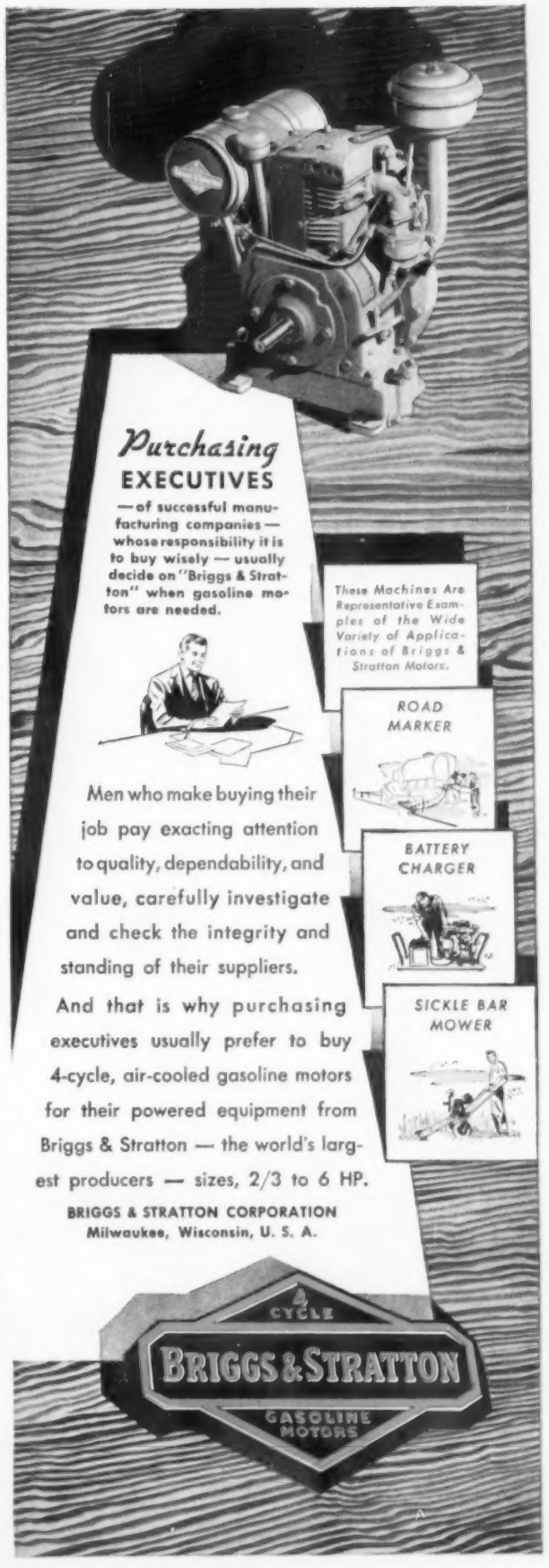
176. Pipe installations with a pusher not only reduces pipe-laying costs but eliminates much of the fuss and inconvenience. The Giant Mfg. Co., Dept. P, Council Bluffs, Iowa, will supply free their booklet telling how their equipment will push pipe up to 15 inches in diameter through the ground at the rate of one to five feet per minute.

Chemical Weed Killer for Parks and Playgrounds

177. City officials who are faced with the prospect of less help and less experienced help will be interested in the Dolge Weed-Killer. According to the manufacturer, one man with this equipment is able to do the work more effectively than several men with hoes and other hand tools. Complete information and literature may be obtained by writing the C. B. Dolge Co., Westport, Conn.

Constant Current Regulators for Street Lighting

178. The Wagner Electric Corp. offers a current regulator for street lighting purposes that it states is efficient in operation, easy to install, and requires a minimum of maintenance. You may obtain a bulletin fully describing this regulator by writing the Wagner Electric Corp., 6400 Plymouth Ave., St. Louis, Mo., and inquiring regarding the Y-H Constant-Current Regulator.


Purchasing
EXECUTIVES
—of successful manufacturing companies—whose responsibility it is to buy wisely—usually decide on "Briggs & Stratton" when gasoline motors are needed.
These Machines Are Representative Examples of the Wide Variety of Applications of Briggs & Stratton Motors.
ROAD MARKER
BATTERY CHARGER
SICKLE BAR MOWER
Men who make buying their job pay exacting attention to quality, dependability, and value, carefully investigate and check the integrity and standing of their suppliers.
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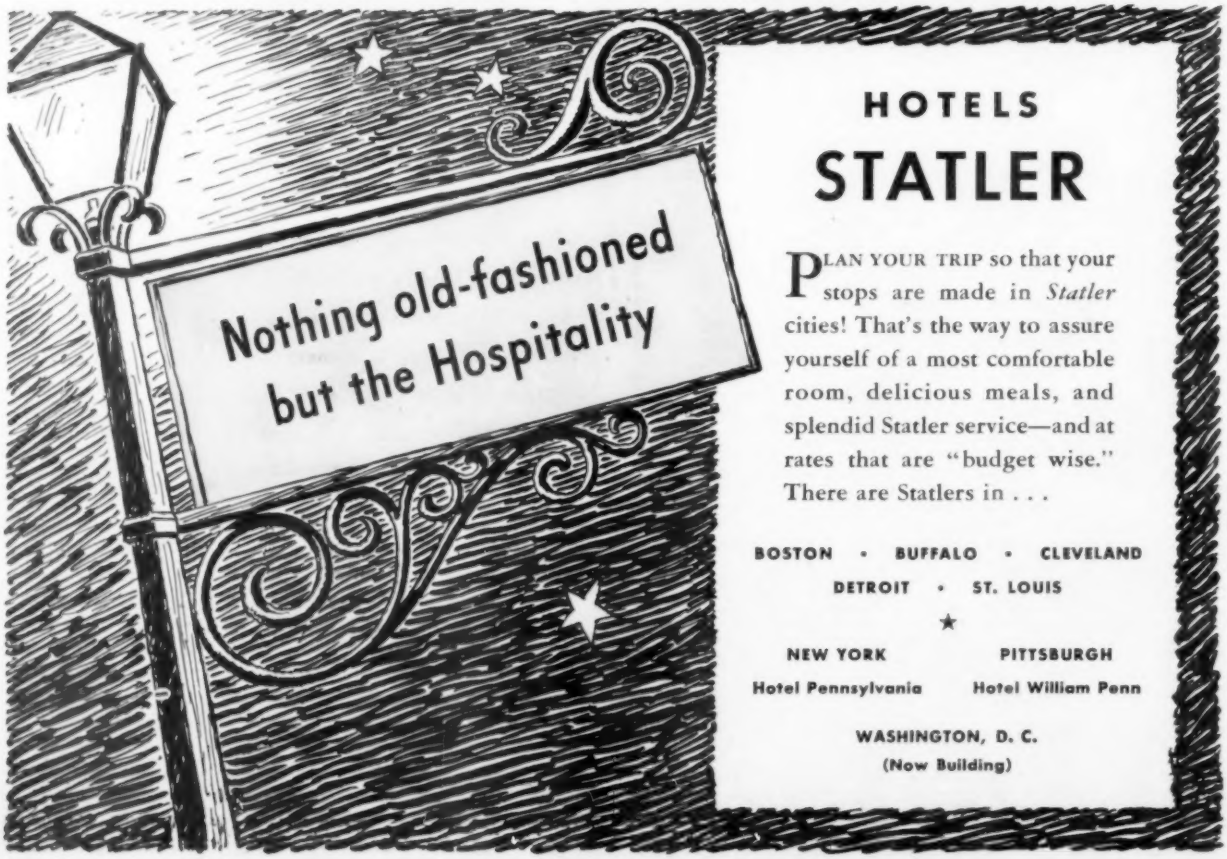

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Vol. LVII, No. 3 The American City March, 1942

American Cities: Comrades in Mobilization

Department of the Interior Seeks Municipal Cooperation in Advancing Its War Program

By Harold L. Ickes
Secretary of the Interior

• • • —

THE mobilization of the might of America as embodied in its stores of natural resources —the minerals, the petroleum, gas and coal, the water power and electrical energy, the forests, the grass lands and the vast areas of the public domain—is the paramount task of the Department of the Interior in this period of world conflict. Upon its successful accomplishment—and America must and will succeed—depends the steady flow of fuel—liquid or hard or electric—for the war machine, ammunition for the man behind the gun, and fighting supremacy on land and sea and in the air.

The war program of the Department of the Interior has its roots deep in years of experience in the use and conservation of natural resources for the Nation. At first glance this program might seem far removed from centers of population and possessing little possibility of cooperation on the part of municipal organizations. Such a conception envisages small groups of technicians from the Bureau of Mines or the Geological Survey searching remote areas for deposits of vital strategic minerals susceptible of development in connection with the war effort. Or it might anticipate scientific experiments in laboratories and experiment stations, the drilling of wells in isolated oil fields, the hum of generators in faraway power plants, or the lonely journeyings of cattle and sheep raisers over the 142,000,000-acre federal range in the West.

If the lonely prospecter searching for strategic metals that we have in scarcity, the wild-catter hunting for undiscovered oil pools which we must have if our oil reserves are to be maintained, or the lonely herder guarding his sheep in the high altitudes of the Rocky Mountains are to put forth their best efforts, they must have the consciousness that the people as a whole are behind them. And this is where the centers of population count. Their will to win the war must carry into every remote nook and corner of the land, there to stimulate and unite with a similar spirit those who are doing lonely but necessary work to win the war. Municipal officials are in a position to render a distinct public service by helping their people to understand what is being done in the great spaces of the country in support of our war effort and to make known the appreciation of these efforts by the city-dweller.

Conservation of Resources

There are even self-evident ways in which our national program of conservation of resources may be aided in the home, in the factory, and on the highways, through the prevention of waste of water, fuel, electric power, etc. Moreover, there are other ways in which the citizen and his municipal representatives may be of service to the Department's war program. Some of them are as follows:

Cooperation with the Bureau of Mines in its program for maximum safety in the use of explosives and in the prevention of accidents, both on municipal construction projects and also in industrial establishments would facilitate the program.

An adequate supply of water necessary for manufacturing processes under our war production program is the constant concern of the water resources branch of the Geological Survey. The activities of the Survey include the scientific ascertainment and measurement of the water supply, both below the surface of the earth and also in the beds of streams. The prevention of wastage either in city water systems or industrial plants would be of material assistance in connection with this program.

These forms of cooperation, together with those looking to the prudent use of our supplies of petroleum for motor fuels and lubrication, and a constant guard against the waste of coal and other solid fuels are patriotic services which can be rendered by every municipality regardless of its geographical location.

The urban dweller can work hand-in-hand with the miner of iron ore in collecting and getting into channels of steel manufacturers every bit of scrap iron that he can find. He can save precious bits of copper and quantities of tin. Undoubtedly more rubber products are used in cities than in the country, and the conservation of rubber is essential to the successful prosecution of the war. Every motorist should acquaint himself with the simple rules that will add to the life of the tires on his car or truck. And, having learned these rules, he should not only follow them him-

self; he should bring public pressure to bear upon the waster.

Protection from Fire and Sabotage

Additional opportunities to help win the war are present in municipalities which lie in close proximity to the vast stretches of public lands in the West and Southwest which are the imediate concern of the Department of the Interior. Here, the Department would welcome the cooperation of city officials, as well as individual citizens, in the advancement of its war program. We would welcome the active participation of citizens in our efforts to protect our forest areas from destructive fires; in the maintenance of an ever-watchful guard against attempts at sabotage of the many vital hydro-electric plants and transmission systems of the Bureau of Reclamation; and a united effort to secure the maximum use of the federal range through a careful observance of the rules and regulations established by the Grazing Service on the 142,000,000-acre expanse of public domain incorporated within 57 federal grazing districts in 10 Western states.

Moreover, an even more careful observance than in the past of laws and regulations promulgated for the protection of the nation's wildlife resources would be a distinct aid to the Department.

The assurance of the fullest possible development and the proven exploitation of this important phase of our national economy would have a definite share in winning the war.

Finally, it is readily apparent that only by full cooperation between all units of government, industry, and the people can we hope to achieve a lasting victory. Whether it is a matter of natural resources, industry, housing, electric energy, or manpower, we must all work together in the common cause. In that direction, and in that direction only, lies success for the war effort.

• • • —

Conserving Municipal Vehicles, Tires, and Gasoline

MANY municipalities are taking drastic action to conserve tires and gasoline and extend the life of their motor vehicles because of war demands, a survey of all cities over 100,000 population by the Municipal Finance Officers Association shows.

Many cities which have lacked proper records of their motor equipment are taking inventory to discover its use, age, and condition. Several cities have set up motor equipment survey boards to determine which cars the city owns are essential, and to assign equipment to the most vital needs. Others are instructing employes on proper methods of prolonging the life of motor equipment.

In some cities cars formerly used part time are being pooled and cars used by one individual only go into the pool to be assigned as needed. A few cities are taking some of their vehicles out of service entirely, stripping them of tires, and holding them in reserve to replace vehicles that wear out.

Spare tires have been stripped off all except emergency equipment in some cities to establish a tire pool, which is drawn from to replace tires that cannot be repaired.

The cities also are checking each municipal department separately to learn where economies in car use can be made. Routes and schedules of garbage and street cleaning trucks and other vehicles are being altered to reduce mileage. Employes who work in limited areas—in health, welfare, or inspection duties—are using bus and streetcar for transportation instead of automobile. The number of cruising police cars has been reduced in several municipalities, and one city—Atlanta—stations police radio cars at fire stations to await calls instead of keeping them on patrol.

In most cities with central garages or storage lots, cars formerly taken home at night by employes now are left overnight, where they can be guarded and serviced regularly. Exceptions to central storage were reported by San Diego, Calif., which disperses city car storage as protection against mass loss by sabotage or other cause; and by Oakland, Calif., which permits some employes driving city cars to take them home for instant service in case of air raid alarm.

Special provisions for motor vehicle conservation were noted in the survey as follows:

Milwaukee. By pooling the entire fleet of city cars, and making no special assignments to any one person, the city has been able to take 30 cars out of service and put them in storage for future use.

Seattle. Making a survey of all automotive equipment. A survey committee appointed by the city council will determine how much of it is "eligible" for tires under federal tire-rationing regulations. Ineligible cars will be stored and their tires stripped for use on other vehicles.

St. Louis. Issuing weekly street car passes to city employes previously driving their own cars.

South Bend. Hired an additional mechanic to assist in repair of city-owned automobiles, which are kept in a city-owned garage.

Detroit. Adding a new motor rebuilding unit to overhaul motors as they wear out, instead of buying new ones.

Dayton. Fencing in a large parking lot adjacent to the city building, where all motor equipment that cannot be accommodated at city garages will be kept and given 24-hour guard.

Sacramento. Continuing a conservation plan begun several years ago. This involves removing spare tires from all motor equipment; utilizing services of an emergency tire repair man when "flats" occur; and keeping a daily mileage and accident record on all vehicles.

War Production Board Gives Priorities to Defense Housing

Pointing out that the factories on which the government is spending many hundreds of millions of dollars cannot run without human hands and that "these workers must be housed," the War Production Board is urging vigorous expediting of the construction of both private and public war housing.

In a letter to the Federal Housing Administration, dated February 13, 1942, Sullivan W. Jones, Chief of WPB's Housing Priorities Branch, writes:

"Our aim is not only to assist legitimate defense housing projects by granting priorities to them but also to do everything possible to insure a steady flow of the necessary materials to complete the jobs."

Rehabilitation of Blighted Areas As a War Housing Measure

By Arthur Goodwillie
Director, Neighborhood Conservation Service
Home Owners' Loan Corporation

• • • —

UNTIL modern housing provision is made everywhere available for all classes of employees in war industries and other government workers, the National War Housing Program will not have been completed—and discontent, inefficiency, and costly migrations will be inevitable.

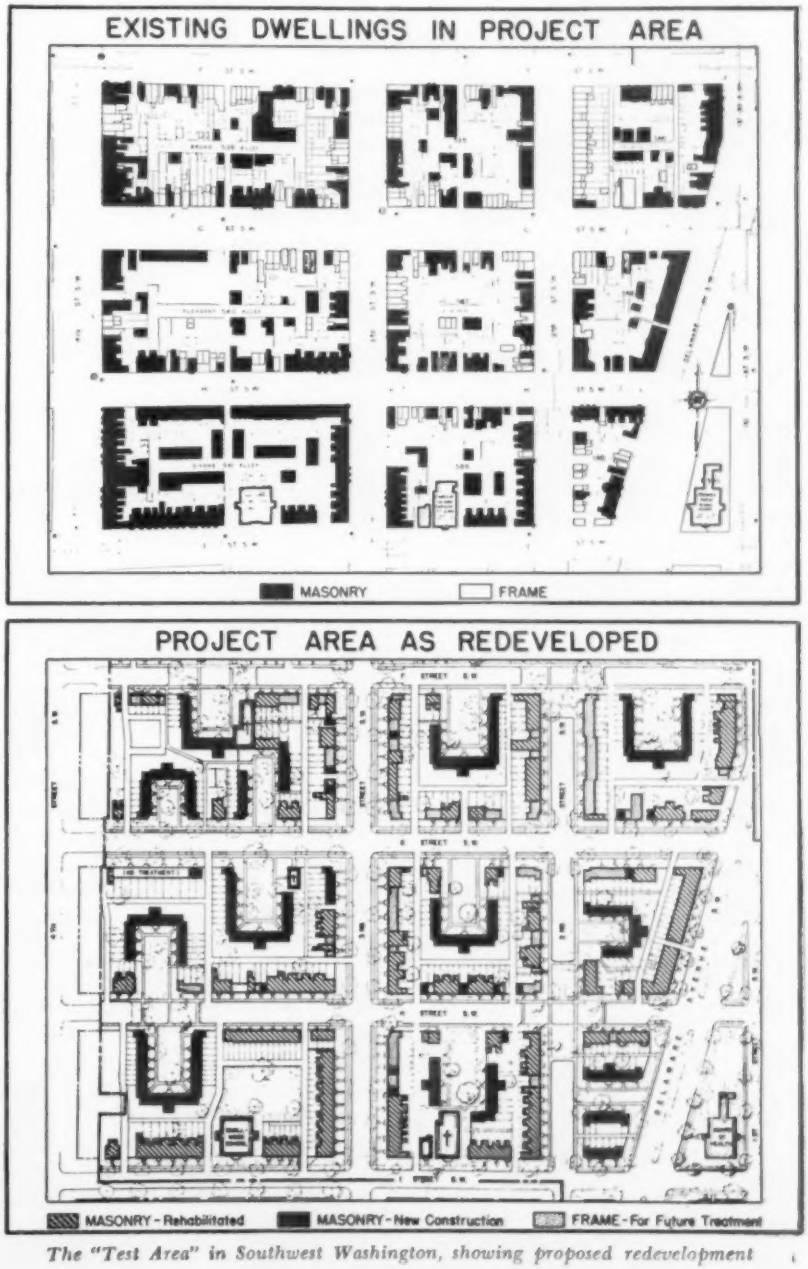
Our studies over the past three years have pretty well convinced us that America has grown beyond the pioneer stage when we can build, destroy, and rebuild in a more or less mad scramble to produce new wealth. It is our opinion that henceforth, and particularly in view of the economic costs of the war, we are going to have to make increasing use of existing community wealth.

Through the rehabilitation of substandard but sound residential structures, and the re-use of pavements, sewers, water mains, and schools already in place:

1. Dwellings suitable for war workers can be produced for little more than *one-half the cost* of equivalent new residential construction.
2. This low cost will be reflected in a sharply reduced economic rent.
3. War housing production will be *expedited.*
4. Considerable *critical materials* will be saved.
5. The quality of the housing thus produced will warrant *40-year cost amortization.*
6. Concurrent new construction on adjacent vacant property will further *increase the supply* of war housing.

As by-products, the program will: (a) dry up large blighted and slum areas without direct cost; (b) avoid much new construction, the post-war value of which is doubtful; (c) eliminate much wasteful duplication of streets, schools, and utilities; (d) help in the difficult transition from a wartime to a peacetime economy, by including a developed program for the re-use of existing community assets in the post-war employment reserve; (e) produce a large pool of low-cost standard housing, in which low-income workers can live at rent levels that will reflect little or no subsidy, thus increasing the number of American families which are self-sustaining.

These projects which are immediately contemplated will require



The "Test Area" in Southwest Washington, showing proposed redevelopment

governmental financing, redevelopment, and management. The program points to a future, however, in which the Federal Government, through the agency of a revolving fund, will assemble and rehabilitate groups of substandard urban residential properties which private investors, home financing agencies, and redevelopment corporations can subsequently acquire, manage, and cost-amortize.

Neighborhood Conservation in Southwest Washington

As a Test Area, the Federal Home Loan Bank Board's Neighborhood Conservation Service has prepared a detailed program for the rehabilitation of nine blocks in the city of Washington, D. C.*

By amalgamating the rehabilitation of old residential buildings with the construction of new, the proposed program will increase the number of rooms now in the Test Area from 2,092 to 3,276. This is at the rate of 57 per cent. *The number of rooms suitable for the use of war workers, however, will be increased from 0 to 3,276.*

Washington's particularly difficult wartime housing problem will thus be expedited and its prospective cost reduced. A considerable saving in critical materials will be effected. A foul slum, lying but a few blocks from the Capitol of the United States, will be eliminated without direct cost. The post-war impact of wartime residential construction on present Class "B" real estate values will be cushioned. The project will set the pattern for like war housing projects in many other critical areas. And it will be of value in the development of plans for post-war reemployment in the field of low-cost public housing.

* EDITORIAL NOTE—Since this article was written the neighborhood conservation plan for Southwest Washington, as described by Mr. Goodwillie and shown in the accompanying illustrations, has received the formal approval of the National Capital Park and Planning Commission; the Senate Education and Labor Sub-committee has reported out an amendment to the Lanham Act which includes a $5,000,000 item for the rehabilitation of Southwest Washington; and preliminary assurance of material priorities has been given by the War Production Board.

The report on the project is available to readers of THE AMERICAN CITY on application to the author at HOLC headquarters in Washington.

Building Officials Warn against Dangerous "Protection"

EFFORTS of building owners, tenants, or managers to provide wartime safeguards for their structures, unless carried out under competent advice, may involve dangers more serious than any risks which such "protection" would be likely to prevent.

A much-needed warning on this subject is voiced in a resolution adopted February 6 by Westchester County Building Officials, of which Walter F. Massey (City Hall, White Plains, N. Y.) is President.

The structural, sanitary, electrical, heating, and ventilating alterations which are giving concern to the building officials include attempts to provide safety against blast, shock, and fire, through the application of a cushioning layer of sand or other inert material throughout the attic or roof areas, extension of water supplies, extension of electrical and ventilating facilities, etc. The resolution urges that public officials advise and instruct persons planning to make any changes, either structural or mechanical, to consult their local building inspectors or other officers, who are duly charged with the duties of maintaining public safety and health, and to obtain proper and legal approval therefor.

Pointing out also that in some cases individuals or groups attempting to coordinate the duties of passive defense "have selected persons and invested them with authority to supervise the operations of demolition and decontamination, disregarding the physical and technical problems which these operations present," the resolution further urges that public officials "take cognizance of the requirements necessary to properly perform these operations and select or cause to be selected persons whose educational and practical experience properly qualify them to supervise the performance of these operations." Finally, in this timely statement, the Westchester County Building Officials go on record as unanimously volunteering their services to assist the executive authorities and citizens of Westchester County in maintaining structural and health standards.

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Civilian Defense and Protection

From the March 1, 1942, issue of The United States Municpal News

IT is clear that there are many people who do not clearly understand "Civilian Defense." If the Presidential Executive Order creating the U. S. Office of Civilian Defense had used the term "Civilian Protection," much of the present ballyhoo would possibly have been avoided. Based on reports from abroad and on the January, 1941, Report of the U. S. Conference of Mayors, the following points are emphasized:

1. Civilian protection is basically the protection of civilian population from enemy attack.

2. As such, the work of organizing an effective civilian protection program must of necessity fall upon existing municipal departments—police, fire, health, hospitals, engineering and public works, utilities, transportation, et cetera.

3. A Civilian Protection Corps must, therefore, be modeled on a quasi-military foundation with strictest discipline and fixed responsibility and command—just as our municipal police and fire departments function.

4. *All* other civilian defense activities—morale, volunteer participation, health, welfare — should be divorced completely from the Civilian Protection organization. Unless this is done there will be continued criticism of so-called "piccolo-playing, basket weaving, folk-dancing, community singing, and broccoli-growing activities."

5. Civilian protection constitutes "passive" defense and as such only goes into action on orders of the military authorities.

6. Only "potential target-area" cities should organize, down to the last detail, a Civilian Protection Organization.

Conversion of Dwellings for War Housing

CALLING attention to the fact that conversion operations have received the highest priority ratings granted to private defense housing, the National Association of Housing Officials, in a statement issued by its Board of Governors on January 20, analyzes the potential advantages and disadvantages of increasing the available supply of wartime housing by this means.

Under *advantages* the statement discusses:

1. Additional accommodations can be obtained more quickly than if new quarters are built
2. Ordinarily no new utilities (sewer, water, gas, and electric) will be necessary
3. Saving of critical materials needed for war purposes, principally metals, may be made
4. In some instances, buildings that are a financial liabiilty to the community may be converted into an asset

The following *disadvantages* are also discussed:

1. The danger of freezing of obsolete patterns of urban development
2. Lack of adequate control of replanning of buildings
3. Difficulty of maintaining standards of occupancy
4. Lack of good old buildings susceptible to desirable alteration
5. Many old dwellings are not adaptable to present modes of living

Neighborhood Consideration

This section of the NAHO statement follows in full:

1. Conversion operations should be restricted to certain areas in a community.

2. These areas will usually be areas already in flux from a low density of residential use to a greater intensity. In some cases, it may be advisable to approve conversions on the fringe of business districts, even though the future of such areas is problematical. This should be done, however, only with reservations that future clearance of the neighborhood appears to be a possibility.

3. Zoning regulations must be maintained. The ruining of single-family areas by permitting individuals to convert their homes to accommodate additional families should not be tolerated. Any tendency toward the creation of "spot" zoning should be resisted, nor should changes in zoning be granted unless they would properly be applicable to a considerable contiguous area, and unless some assurance is given that if a change is granted the necessary funds are available to do the alterations to a considerable number of structures within the area.*

4. Where a master plan of the community is in force, dwelling conversion should be permitted only when the result will be in conformity with the master plan.

5. The principle should be stressed that in wartime an *unnecessary* risk of personnel is not tolerable. This principle is recognized in the combatant forces of the nation. Workers in munition factories, airports, Navy yards, arsenals, and similar "military objectives" are perforce subjected to risks during their working hours. To huddle their families in close proximity to these very danger spots is, with very rare exceptions, an unnecessary and intolerable risk. Hence, conversion operations within a certain radius of such military objectives should be discouraged if there are any possible alternative locations. Of course, such military objectives should not be built in population centers. The real remedy is to remove them.

*EDITORIAL NOTE: *To this recommendation* THE AMERICAN CITY *believes that exception ought to be made in the case of certain large old single-family houses which are likely, through their deterioration, to do more harm to their neighborhoods than if converted, under careful safeguards, for occupancy by more than one family.*

An example of an attempt by a high-grade suburban community to meet this problem is the following provision adopted by Madison, N. J., in December, 1940, as an amendment to its zoning ordinance:

ALTERATION OF EXISTING SINGLE-FAMILY DWELLINGS: With due consideration for preservation of the general character of the neighborhood, the Board of Adjustment may authorize the issuance of a permit for alteration of a dwelling existing at the time of enactment of this ordinance, in a Residence "A" District for occupancy of 2 families, provided that the cubical contents of the building shall not be less than 12,000 cubic feet per family to be accommodated, and provided there shall be no exterior alteration of the building other than as may be required for purposes of safety.

In a Residence "A" or Residence "B" District similar permission may be granted for 3 family occupancy, provided that the applicant for the permit shall secure the written consent of all owners of property within 200 feet of his lot, or failing such unanimous consent, the objectors shall be given a hearing by the Board of Adjustment.

In no case shall a change from a one-family to a two- or three-family use be permitted except on lots having an area of not less than 5,000 square feet for a 2-family occupancy or of not less than 6,500 square feet if an interior lot or 5,700 square feet if a corner lot, for 3-family occupancy.

What Kind of Building Should Be Converted?

Recognizing that not all dwellings can be altered desirably, the following principles for determining whether a specific building should be approved for alteration are recommended by the NAHO Board:

1. The present planning of the buildings must be such that they can be altered without excessive cost, to produce new units, each of which will have those essential living qualities of light, air, sanitary conveniences, privacy, and proper arrangement for family functioning which are the basis of reasonable planning standards.

2. Ordinarily, buildings which are so far gone in physical deterioration that the basic structural elements, foundations, walls, floor, or roof structure are unusable, will not be worth altering, as the reconstruction is likely to be more expensive and consume as much critical material as new structures. Of course, if no convenient sites are available for new structures, it may be necessary to use the old, regardless of cost.

3. The dwellings produced by conversion should be judged as to the likelihood of inviting and maintaining a desirable use. It must always be remembered that the objective is to provide proper dwelling facilities and not to foster crowding and potential slums. This problem will almost always arise where a building owner is interested only in the first cost of the alterations.

4. In practice, conversions will be largely alterations of single-family residences (free standing or in groups), since this type of building is more readily altered than apartment buildings, without running afoul of housing and fire regulations. Under favorable circumstances, apartment buildings may also be converted, particularly those containing units with a large number of rooms; but, even in such cases, conformity with existing regulations will frequently be difficult. In no case, however, should an alteration of any building be approved which will tend to break down existing regulations established to protect life or health. In any event, increasing the bulk of the building or the land coverage should be avoided. This will prevent filling of existing open spaces, which always constitutes a threat of rapid neighborhood deterioration.

State of Washington Plans Water Works Defense

Program Outlines Practical Procedure To Protect against Both Air Attack and Sabotage

"WHEN the history of World War No. 2 is written, it may be said that while the water-works operators of Britain did not win the war they could well have lost it." This timely observation of the part water works play in the total war effort was made by M. S. Campbell, Chief of the Division of Public Health Engineering, in Bulletins 11 and 12, Volume 5, of *Water Supply and Sewerage News* issued by the Washington State Department of Health. In order to make certain that the water works departments in the state of Washington will vigorously meet any and all requirements placed on them by either sabotage or air attack, Mr. Campbell outlines in this bulletin sound and practical procedure that may well be the basis of programs for all state departments of health.

Emergency Equipment

The bulletin carefully inventories available chlorinators such as are now found in swimming pools, sewer departments, and similar places, giving location, type, and capacity of each chlorinator. It also tabulates available cascade sprayers to handle hypochlorite solutions. This equipment, it is pointed out, is available in the event of wide-spread damage and subsequent shortage of emergency equipment. Duplicate and emergency equipment is urged for each individual water works plant.

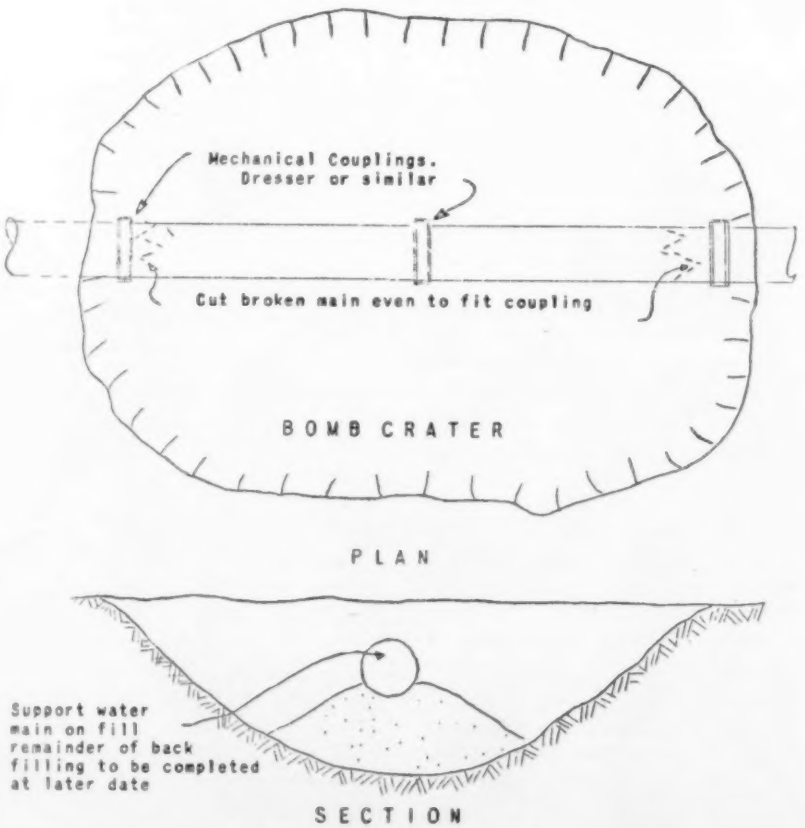
Mr. Campbell clarifies the point that, contrary to the impression gained by some operators, chlorine for standby purposes is available. He recommends that enough of a standby supply be obtained to last 200 per cent of the time normally lapsing between placing the order and delivery.

Intakes, he points out, probably will be subjected to sabotage rather than direct attack. Operators can meet this most effectively by floodlighting and guards, and in some cases by man-proof fencing. The bulletin further recommends developing intakes that may have been abandoned. As an interesting sidelight, it is noted that permission is given to temporarily cross-connect with private supplies provided that the installation is approved by the State Department of Health.

Dams, it is pointed out—particularly massive concrete dams—are not apt to suffer from aerial bombardment. However they warrant consideration because their destruction might result in a major flood disaster.

The advisability of having more than one well is very definitely pointed out when locations are relatively distant. Standby power also should be available.

Small structures, it is felt, may be protected at a nominal cost against all except direct bomb hits. Sand bags or wooden boxes filled


Mechanical Couplings. Dresser or similar
Cut broken main even to fit coupling
BOMB CRATER
PLAN
Support water main on fill remainder of back filling to be completed at later date
SECTION

Typical method of repairing large water mains

with sand have been recommended as simple and effective. The report also suggests building small brick walls or a sand-bag construction around the motors within the building itself. A reinforced concrete roof 5 inches thick, it is believed, will stop a 2-pound incendiary bomb. Emphasis is placed on adequate parts for replacement, emergency crews, and floodlighting.

Regarding supply lines, the bulletin points out that since they are below ground, damage by air attack is likely to be accidental. The possibility of sabotage is recognized, however, particularly of cross-country mains, because of the difficulty of policing. Vulnerable points in supply lines are valve manholes or similar places where items in the line are exposed. It is recommended that these be given a protective cover if at all practical. However, the best protection is an organization sufficiently equipped to know where a break occurs and to repair it in the shortest time.

For open reservoirs, it is recommended that tight, man-proof fences of the cyclone type topped with offset barbed wire be installed if the topography at all permits. The fence should be at least 20 feet from the edge of the reservoir. Particular attention should be paid to prevent aerial activity over an impounding reservoir.

Reservoir Poisoning

An interesting observation regarding the possibility of poison states that previous to the war it was the consensus of opinion that, because of bulk, poisoning was impractical. Now, however, it is known that dried typhoid organisms can be compressed so that one ton weighs only one hundred pounds. Therefore the report recommends that protection plans be made accordingly.

The report discloses the information that the tremendous shattering effect of bombs makes it impractical to protect pipes in a distribution system by burying them. Evidence from abroad is presented to the effect that one may expect a break in every one and one-half to two miles of water mains from a long continued series of air attacks. By attention to details, well-trained repair crews in England have been able to repair a 6-inch main in less than two hours.

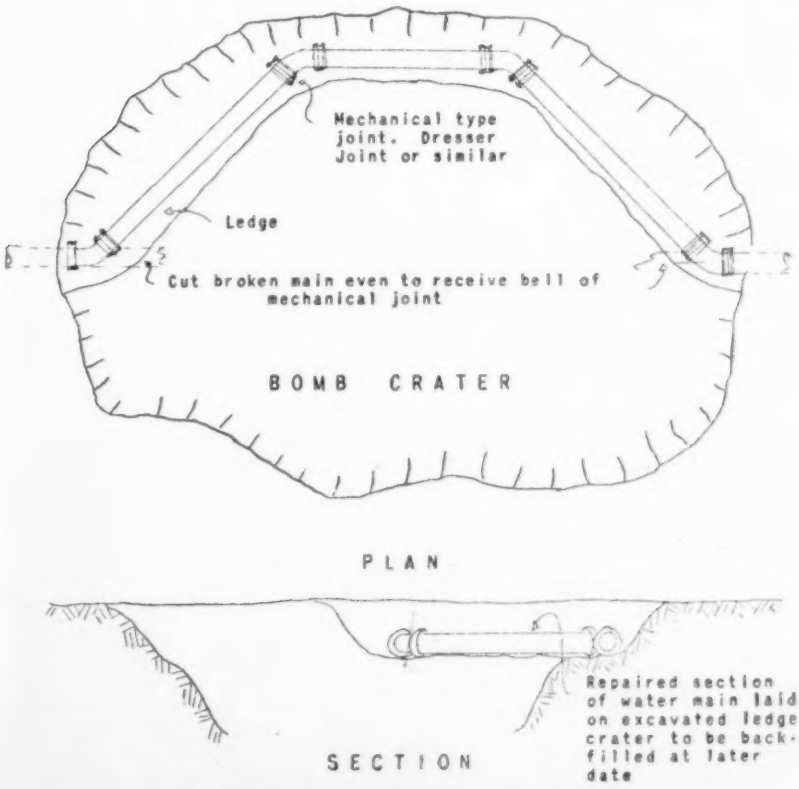
Sandbagging should be avoided in water works defense measures. This is the opinion of A. Carrington Wildsmith, a district engineer of the Manchester Corporation Water Works, Manchester, England, expressed in a recent issue of the Journal of the American Water Works Association. Experience he has observed is that the bags soon rot and the subsequent disposal of the leaking sand produces a real problem.

Brick wall or wood box protection measures suggested by the accompanying article appear preferable.

The value of well-trained repair crews is constantly emphasized. Normal repair crews, it is pointed out, should be increased, and emergency crews should be available when needed. All crews must be thoroughly familiar with the distribution system and valve locations. Equipment should be available so that when a repair is made the line can be disinfected. The bulletin emphasizes the importance of communication between crews, either by short-wave radio or by messenger service, to supplement telephone.

Personnel, it is further emphasized, should be investigated thoroughly in regard to patriotism and cooperation. Past records of all employees should be well known. Visitors should be watched carefully by employees and, the report states, if any doubt exisits, should be taken into custody.

As a final precaution, the report recommends that all non-employees should be excluded from areas in the vicinity of intakes, dams, reservoirs, treatment plants, picnicking or parking grounds.


Mechanical type joint. Dresser Joint or similar
Ledge
Cut broken main even to receive bell of mechanical joint
BOMB CRATER
PLAN
Repaired section of water main laid on excavated ledge crater to be backfilled at later date
SECTION

Typical method of repairing small water mains

"War must not destroy civic efficiency."
WOODROW WILSON

Columbus Discovers New Street Program

Paving by Petition and Assessment Has Given New Life to Improvements in Columbus, Nebr.

THE establishment of paving districts by petition or by ordinance, with a remonstrance period for those who do not wish to pay the $1.65 per front foot for a 32-foot concrete pavement 5 inches thick, has suddenly created a paving epidemic to do away with gravel and dirt streets in the residential districts of Columbus, Nebraska.

Anyone owning property on a street who can secure other owners representing, with himself, a total of 51 per cent of the front footage —provided that the section to be paved is contiguous with existing paving—may petition the City Council for the creation of a Paving District. These petitions set the price that the property owners are willing to pay per front foot, which amounts to $1.65 at the present time for a 5-inch concrete paving on an average street using WPA labor. The property owners pay only for material and engineering. The City Council then passes an ordinance creating the Paving District, which allows a 20-day remonstrance period during which the project is dropped automatically if 51 per cent of the property owners in the new Paving District object.

City Acceptance Forced

As stated before, all Paving Districts must start from a pavement; but if the property owners can get 75 per cent of the front footage represented in a petition and if they agree to pay for the adjacent intersection, the city is required to accept the Paving District.

For the 32-foot residential streets in which this work is undertaken, a 5-inch crown is used in 16 feet; and the pavement is 5 inches thick except for 2 feet adjacent to the gutter and on either side of all keys, when it increases to 7 inches in thickness uniformly in the 2 feet. The standard curb and gutter has a 12-inch curb with a 6-inch top and a 1-inch batter for 6 inches on the face, and then extends 1 foot 6 inches outward to form the gutter, rising 1 inch in this distance to form a slab 7 inches thick where it meets the edge of the pavement.

Joint Design

The design includes a longitudinal dummy joint 5 feet 6 inches from the gutter and a key at the center line of the pavement. Dowels, ½-inch round and 2 feet long spaced 30 inches apart, are used across all dummy joints and the same at the center joints. Transverse dummy joints are spaced every 15 feet, with ¾-inch round dowels 2 feet long spaced 18 inches apart at the corners of all slabs. The expansion joint dowels are spaced 15 inches apart and are ¾-inch round dowels 2 feet long, oiled and capped at one end. A premolded type expansion joint of impregnated felt is used, ¾ inches thick and 5 inches high. All curb returns are on a 12-foot radius.

Paving with Relief Labor

A central mixing plant has been established in the city yard where the aggregate is unloaded from cars nearby and hauled to stockpiles at the plant. Material is weighed out in wheelbarrows and given a one-minute mix in a Rex 2-bag mixer mounted on a platform so that it can discharge directly into trucks which back up to the platform in a depressed roadway. All the work on the road is done by hand, including puddling, screeding, and finishing. An interesting method of maintenance is noted in the care of dummy joints. These are cleaned by raking with a single tine and are blown clean immediately after the first frosty night in the Fall. Then when they thus have received their first initial contraction they are sealed with a mastic.

This program of paving, which amounted to about 60,000 square yards during 1941, is the first paving program of any extent since 1929, and is being welcomed by many citizens who have wished to replace their dirt streets with a dustless and mudless paving. The entire work has been in charge of Leo B. Woerth, City Engineer.

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Librarians Adopt Wartime Policy

A STATEMENT by policy adopted last month by the Council of the American Library Association sets a high standard for wartime service by libraries.

Emphasizing the fact that "the country requires of every profession, as of every citizen, the utmost intelligence, realism and devotion," the statement says:

"Every library must organize its services and expenditures without delay to meet the necessities of a nation at war. Each library activity must stand a triple scrutiny:

"*Will it contribute to victory?*

"*Will it help to make a better America?*

"*Will it help to make a better world?*

"Whatever fails to meet this test must yield to things more urgent."

Special wartime tasks are discussed in this statement of the American Library Association. It is pointed out that:

"The library must supply technical information to industrial defense workers and students. . . .

"The library must disseminate authentic information and sound teachings in the fields of economics, government, history and international relations. . . .

"The library must make available valid interpretations of current facts and events. . . .

"The library must help to relieve the strain of war, by maintaining its supply of recreational reading, for men and women, and especially for children. . . .

"The library must help and support post-war planning."

Rural-Urban Slum Elimination

The Town of Rock, Wisc., Sets a Good Example

By J. M. ALBERS
Area Planning Engineer, Wisconsin State Planning Board

THE improved development of the environs of cities on the rural fringe is one of our present-day problems. It is probably most pressing around industrial communities, although it is by no means confined to this type. The ordinary approach to a municipality is through large areas of tumbledown shanties, trailers without wheels, railroad yards, junk yards, and generally low-type development. This may be ascribed to poor land subdivision, small lots, lack of special improvements, and the absence of any minimum standards of construction and use.

Within city limits conditions are generally better. This may be due to the existence of sewers, water, pavements, sidewalks, and adequate police and fire protection, but something may be said also for the influence of city plans, zoning ordinances, and building codes. A higher standard could be maintained in the rural areas as well as in the urban, if the same type of regulations existed in both. However, in general it does not because the rural areas either have not taken the problem seriously or have not used such governmental authority as they may possess.

Many states now permit counties to zone, and some, either generally or by specific legislation, permit them to adopt minimum standards of construction—that is, building codes. Where this is so, such legislation has generally been applied to the more densely occupied areas outside of the incorporated limits of cities and villages, but it has more frequently taken the form of land use regulation than that of minimum construction standards.

A Wide-spread Menace

The extent of rural-fringe slums is difficult to estimate, but it may be said that they are large enough to constitute a menace to the public health, public safety, and the general welfare. In general, there is no sanitation, no public water supply, unimproved streets, no sidewalks, and practically no drainage. Not much can be expected of adults living under such conditions, and probably less from their children.

In this Wisconsin town shacks like these:

Are being replaced by homes like these:

Besides the hazard to the general public good, there also is that to the public pocketbook. There is one known instance where a rural school board was faced with the necessity of doubling the size of its school building due to the fact that the number of children coming from these more or less temporary dwellings and entitled to educational facilities was so great that the enlargement was needed. The board was about to issue bonds to a considerable amount for the erection of the addition when, for some unknown cause, nearly all the semi-transients packed up and left. This school board would have been stuck with a school which was only 50 per cent usable had the building been erected before those for whom it was being built had begun to migrate. However, the hazard to the public purse is not to be compared with the hazard to the general public welfare.

Much good could be accomplished if use regulations and minimum standards of construction and of land subdivision could be applied to such areas. There are other regulations and standards which might be added to these if it were desirable. But the three mentioned can be of considerable aid, and in fact much can be accomplished if only a part of them exists. The difficulty lies in getting the governing bodies to use what authority they may have.

Zoning of Unincorporated Areas

In Wisconsin, zoning of the unincorporated areas is a county undertaking, so that if the county has no zoning ordinance, there is no public land use regulation in the environs of cities. Land subdivision can be controlled, because no plat located in a town (in Wisconsin, the rural civil government unit) is entitled to record until it has been approved by the town board and by the State Director of Regional Planning. Further, land subdivision plats are also subject to the approval of city and village plan commissions or governing bodies if such plats are located within a mile and a half of the limits of any village or city of the fourth class, and within 3 miles of the limits of all other cities. Minimum standards for streets and lots are recognized. In addition to this, a town can adopt a building code.

Conditions such as I have described existed in the town of Rock in Rock County, Wisconsin. The particular area is in the immediate environs of the city of Janesville, an industrial community of approximately 23,000 population. As with other cities of this type, there has been a considerable influx of industrial employees, many of them seeking more or less temporary employment, and not a few becoming attached to the community to the extent at least of consenting to live in trailers, shanties, and generally low-type shelters. The situation in this particular town grew to such proportions that the Town Board became greatly concerned as to the results of the continuation of such growth. The Board was faced with the necessity of furnishing school facilities and also with the fact that the general character of the development was such that there could be no guarantee of the permanency of the population. The area was decidedly a slum in character and nothing was being done to raise the standard of the development nor was there any incentive for the occupants to do so by their own initiative.

Town Board Gets Aid from State Planning Board

Early in 1941 the Town Board consulted the State Planning Board as to what methods could be used to correct the situation. After some discussion, it was determined that the best means at the disposal of this body was through the use of a building code. Such an instrument was drafted and adopted late in the winter of 1940-41. In August, 1941, A. H. Peterson, who was Chairman of the Town Board at the time the preliminary steps were taken, came into the office of the State Planning Board and reported that the building code was operating in a manner which exceeded the most optimistic expectations of those who favored it. He stated that some of the worst shacks had been torn down and replaced by decent dwellings. As evidence he later submitted "before and after" photographs (two pairs of which are reproduced).

This code is the essence of simplicity. It specifies the minimum size and spacing of structural members, methods of chimney construction and fire protection. It also requires a building plan, a plot plan, and a building permit. A permit to move buildings is also required. The Town Board delegated enforcement to the town clerk by making him building inspector.

Probably the most remarkable result of this action has been the whole-hearted cooperation of the people living in this area. The clerk reports that he has had substantially 100 per cent cooperation and it has been stated that the citizens themselves have given substantial aid by guiding their neighbors. It is quite apparent that what was first needed in this neighborhood was the development of the standards, but more important is the confidence of the citizens that these standards will be maintained, thereby guaranteeing the stability of the modest, hard-won investment they have been able to make.

Building Code and Zoning Ordinance Both Needed

It may be that the experience of the town of Rock will indicate one procedure that will be helpful in connection with the problems of the urban-rural fringe. However, primary reliance should not be placed on a building code, but on a suitable zoning ordinance supplemented by a building code. In Wisconsin, the idea of county zoning ordinances in counties which are largely rural, even though they have industrial cities, has taken hold to some extent. Such ordinances are in effect in Walworth, Jefferson, Dane and Marathon counties. Procedure in adopting such ordinances is quite complicated and long drawn out, but is such as to insure public acceptance of the ordinances in the towns in which they are effective. The Dane County ordinance is operating effectively in controlling growth and preventing the development of nuisances in the outskirts of the city of Madison, for instance. The Rock County Board of Supervisors had gone so far in 1938 as to request its County Park Commission to prepare a tentative ordinance and report; this was presented to the County Board in November of that year, but was laid on the table where it has since reposed. Whether or not interest will be revived in view of the satisfactory experience of the town of Rock is not now known, but such may be the case. In any event, the experience of the town of Rock is illustrative of progress that may be made. To insure such progress, the presence of a continuing planning organization, with an adequate staff, which will be ready to cooperate with the local authorities, is necessary.

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"Communities for Living"

ON THE facing page are reproduced, in one-quarter size, four pages of an exceptionally effective booklet, "Communities for Living," reviewed briefly on page 107 of this issue of THE AMERICAN CITY. Planned primarily for high-school use in the Tennessee Valley area, the booklet has been so designed as to be applicable also for citizen group study of the possibilities for community development. It was used last spring in a try-out version by city planning commissions in two southeastern states and in high schools and demonstration schools of five states. The present edition is a revised version which draws upon experiences obtained from this earlier trial use.

"Communities for Living" is dedicated to Everyman's Home Community. Though it focuses upon the typical small community of the Southeast, it points to a way of town building which is fundamental to the well-being and fullness of living in all communities—little town, big town, or city; south, north, east, or west. The booklet draws upon real and familiar examples of unguided growth and development, but only in so far as they contribute to a fuller understanding of the larger objective of planned growth and development.

In its concluding paragraph the booklet says:

"Most people know from experience that it takes time to work out plans, and more time yet to carry them out. They know that meeting future needs and wants must begin with action now. Today, then, is none too soon to start planning our communities. "We—you and I—are the planners of this generation. The future of our communities will be what we make them."

—See also brief review on page 109 of this issue.

Pipes Wires and Waste

CHAPTER 4

At work beneath the ground, overhead, and along the streets and alleys are the lifelines and service facilities of the community. There are pipes, all kinds of pipes—water pipes, sewer pipes, drain pipes, gas pipes. There are wires—power wires, telephone wires, telegraph wires. There are fire hydrants and street lights. There are manholes and catch basins. These are the public utility facilities of the community. In addition to the utilities there are the garbage- and refuse-removal services.

Ordinarily we do not think much about these utilities and services. Sometimes there are not even any records which show what they are and where they are. We know they are there, but we forget that these functions have a place along with the other parts of the community, that they require planning just as much as the others.

THE WATER SYSTEM

WATER SUPPLY AFFECTS TOWN GROWTH

Wells and cisterns may be adequate for the water needs of small crossroads settlements, but communities which are growing cannot long depend upon these sources. They soon discover that a public water system is a necessity for the health and welfare of its residents and its businesses. Water is an important factor in community growth. It is needed for domestic, industrial and fire-fighting purposes.

Water systems consist of the water supply itself and the treatment and distribution of the water. Communities should base sources which guarantee large supplies of pure water. Places of from 2,000 to 5,000 population often use as many as 100 gallons per person per day. To meet these needs dependable sources are required. In small communities these sources are often subsurface — that is, water is pumped from wells. Other communities, particularly large ones, get water from surface sources such as rivers or lakes. In addition to providing for present needs, communities should estimate future needs. They should prepare a program for enlarging their supplies as the community grows and water consumption habits change.

SOURCES OF WATER MUST BE PROTECTED

Sources of supply should be free of and protected from pollution. While in most communities water must undergo some purifying treatment before distribution, it is in the interests of public health to guard against pollution at the source. Water is a carrier of typhoid, dysentery, and the germs of several other serious diseases. The use of watershed areas — the areas from

If growing towns are to safeguard public health properly, they must replace the privy with a sewage disposal system.

Growing communities soon learn that in order to continue to grow and to protect the health of their citizens, they must develop public water supplies.

which reservoirs draw the supplies of rain water—should therefore be controlled. A community forest, giving labor and fuel to townspeople, is one means of controlling a watershed.

To purify water, it is filtered through sand, exposed to air and sunlight, and finally treated by chemicals. The plant where these treatment processes are carried out should be located and designed so that there is sufficient space to accommodate future expansion, as well as present needs.

ALL PARTS OF TOWN MUST BE SERVED

And finally there is the problem of providing adequately for distribution of water. All built-up portions of town should be served by the public water system. New developments, residential or industrial, increase demands on existing mains and facilities. Unless provision for these needs is made in the beginning, the community faces the expense of replacing some of its water mains later with larger pipes. As described elsewhere, zoning can help in the planning of the water system, since the number of families allowed in a given area can be limited, and water and other systems can be planned to serve this many, and no more.

THE SEWERAGE SYSTEM

THE GROWING TOWN NEEDS A PUBLIC SYSTEM

Just as a public water system becomes increasingly a necessity to the growing community, so also the need for a public sewerage system increases. Often central areas are sewered, but outlying sections still remain without modern sanitary facilities. In these cases the community should provide for the extension of its system or at least for the use of septic tanks. The sanitary disposal of human and factory wastes and the prompt drainage of rain water are important to health and welfare.

Some communities have built incineration plants to eliminate offensive and germ-breeding garbage and refuse dumps.

There are two types of sewerage systems. One is called a "combined system." In this type, both sewage and storm water are carried in the same pipes. The other is called a "separate system." In this case, streets are drained of storm water by a simple run-off system with outlets into nearby streams or low areas. Sewage is collected in another system of pipes. Careful studies are needed to determine which system will be most satisfactory and economical in any given community.

SEWERAGE SYSTEMS MAY DETERMINE BUILDING AREAS

The sewerage system is often an important factor in determining areas practicable for building. Areas which cannot be improved to give proper drainage and free and easy gravity flow of sewage should not be used for residential development. Communities in which these simple principles are ignored often find themselves saddled with expensive sewage-disposal costs from the beginning.

Communities dispose of sewage in one of two ways. They may dump it into near-by streams or rivers directly from the sewer mains or they may purify the sewage before disposal. The first method may not in the beginning be a menace to public health, but sooner or later, when the community grows, it will become a health problem. Some communities get their water from the same stream in which another community dumps its sewage. Modern water-purification methods can eliminate harmful germs in such a stream; nevertheless it is a potential threat to public health. We have already seen how water carries germs of serious diseases.

DISPOSAL IN STREAMS BRINGS POLLUTION PROBLEMS

Pollution of streams makes swimming and other recreational uses unhealthful. It kills fish. Odors and unsightly appearances become a public nuisance. Indeed, they may become so offensive that the values of surrounding property fall far below their normal worth. In some areas pollution — not only from domestic but also from industrial sources — has become such a serious problem that communities downstream from the source have brought suit against their upstream neighbors.

GARBAGE AND REFUSE DISPOSAL

REGULAR COLLECTIONS ARE IMPORTANT TO HEALTH

Important also to public health and safety is a system of regular collection and disposal of garbage and refuse. Yards continually littered with garbage and refuse are unsightly, offensive, and a menace to health and safety. They are breeding places for flies, mosquitoes, and rats, all of which are carriers of disease. They are a fire threat to a neighborhood. Moreover, the improper dumping of garbage and other refuse on the outskirts of a community presents many of the same objections.

METHODS OF DISPOSAL SHOULD BE REGULATED

Communities require not only efficient and regular collections, but sanitary means of disposal. They should have strict regulations specifying types of containers, collection vehicles, and frequency of collection, whether the actual collection is done by public or private enterprise. In many communities refuse is disposed of by burning. In small towns, people may burn their own refuse; in cities, it is collected and burned in public incineration plants. Garbage can be disposed of in any one of three ways: (1) by dumping it in restricted outlying areas to be decomposed by air, (2) by maintaining an outlying community farm and feeding it to pigs, or (3) by burning. Where there is efficient operation and management, the last two methods may not only pay the costs of collection and disposal, but in some instances produce an income for the community.

OTHER UTILITIES

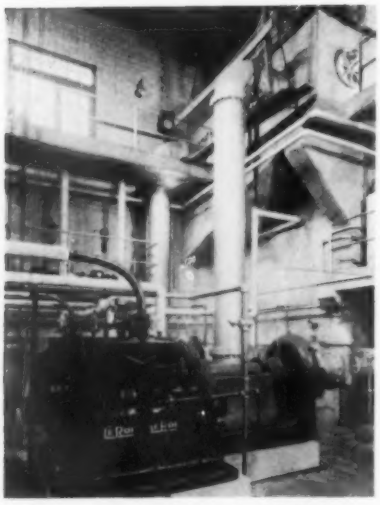
PRIVATE UTILITY LOCATIONS MAY AFFECT ATTRACTIVENESS

Electricity, gas, and telephone services are important lifelines in the present-day community. In many sections of the country, communities own their own electric distribution systems, but whether under public or private management, communities must see that electricity and gas and telephone systems are properly provided where needed. In some communities, wires and poles mar the natural beauty. It is often possible to put wires either underground or along the back lines of lots. If cooperation between the community and the agencies providing these services is maintained, much extreme and ugliness can be avoided.

From "Communities for Living" (See preceding page). Other chapter headings of this booklet are: "Introducing Our Community," "Place to Live, Work, and Play," "Paths of Circulation," "Pipes, Wires, and Waste," "Beauty in the Community," "The City Serves the Country," "Machinery for Action," and "What of the Future?"

Sewage-Treatment Plant Safeguards Water Supply

Quincy, Ill., Protects Water Supply from Pollution Aggravated by Mississippi River Lock and Dam



The new sewage pumping plant at Quincy, Ill., powered by Le Roi gas engines

A FIVE-YEAR struggle to safeguard the water supply of Quincy, Ill., has ended with the dedication of an 11-acre sewage-disposal plant. Capable of handling eight million gallons of sewage per day, the plant and the accompanying sewers have relieved Quincy of a situation that was becoming alarming from a health standpoint.

Pollution of that part of the Mississippi River from which Quincy draws its water supply was aggravated when, in 1936, the War Department started construction of a dam immediately south of the city. A pool resulted in that section of the river where the intake pipes for the city's water supply are located. Sewers emptied directly into this pool, and health authorities expressed alarm that the water supply would be polluted by the city's own sewage. The completion of the dam justified the city's alarm, and plans were immediately laid for the construction of a treatment plant.

Quincy already had received considerable aid in the form of PWA loans and grants for sewer construction. When these grants became unavailable, the city turned to WPA for further financial aid. A bond issue of $200,000 was passed in October 1938, and construction began on November 2, 1939. Twenty months later, WPA turned over to the city, ready for operation, the completed plant. A grand total of $1,744,011 in federal funds had been expended on the sewers and plant.

Plant Layout

Visible above the ground at the disposal plant are the four principal units. These are the pumping station, twin digester tanks, circular concrete clarifier, and the bank of ten sludge drying beds. However, a great part of the plant is underground, including the huge wells that receive the sewage from the mains, the pump station, and all the pipes and connections necessary for operation.

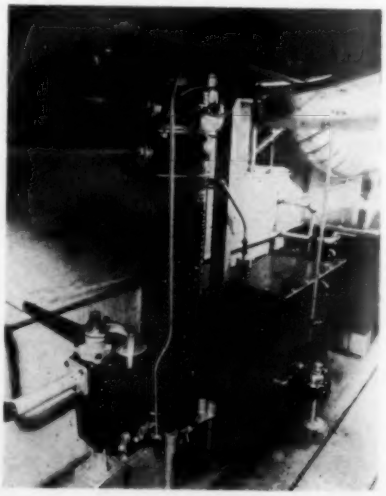
Sewage comes from two main lines. The largest of these is a 54-inch line that enters the grounds at the northeast corner. It collects all the sewage from the main part of the city. The smaller, a 36-inch line, gathers the sewage from the southern section.

Both sewers empty into the receiving wells beneath the pumping plant. From there, Dayton-Dowd centrifugal pumps take the sewage, after screening, to the Dorr clarifier. This unit, a concrete bowl 100 feet in diameter, has a depth of 12 feet at the outer edge sloping to a sump at the center. In the clarifier, the solids settle from the liquid, and a 50-foot blade moving slowly along the bottom forces them to the sump in the center. This blade takes 45 minutes to complete a revolution.

The sludge is pumped into the twin digestion tanks, circular and tile-surfaced, where it is broken down by bacteria aided by heat from coils of hot water pipes. These tanks have valves permitting the occasional withdrawal of samples for analysis. After putrefaction, the solids, almost odorless, are pumped out to a series of drying beds at the end of the plant. When dried, this sludge is used as a soil conditioner on municipal lawns and parks.

Gases that arise from putrefaction in the digesting tanks are trapped and stored in Hortonsphere tanks and used as fuel for the Le Roi gas engines operating the pumping equipment. Heavy steel, concrete-weighted tops, "floating" on the trap tanks, rise and fall with the amount of gas produced, keeping it under pressure at all times.

The largest of the structures at



The screens and grit chamber of the Quincy, Ill., sewage treatment plant

the plant is the main pumping plant. Two large Dayton-Dowd pumps with a combined capacity of 8,000,000 gallons per day are set in the basement far below the ground near the receiving wells. On a second basement level, a tunnel leads underground to the nearby digestion tanks. This tunnel carries the pipe lines for heated water that is pumped through the coils in the digestion chambers, and also contains the pipe that carries collected digester gas from the tanks back to feed the pump-driving engines.

Efficient Pumping

In the event that the amount of sewage should not reach the limit of the pumps at any time, the pumps will be kept in operation by a feedback system which permits the residue water from the clarifier to drain back into the receiving wells. Thus the pumps will be kept working at their full capacity at all times, and much of the liquid content of the sewage will go through the clarifier two or more times before being discharged into the river.

In addition to the treatment plant, 27 miles of sewers have been constructed in Quincy during the last six years, as well as a lift station, making possible the extension of sewer facilities.

Design arrangements enable the plant to be operated satisfactorily with a relatively small force of constant size. Operations began on July 27, 1941. The intervening time has allowed the city engineering force to acquaint their operators with the plant so that it may be run most efficiently.

The firm of Black and Veatch of Kansas City, Mo., were retained by the city as consulting engineers. For a portion of this information we are indebted to C. R. Baxter, present city engineer, who held this position during the completion of this project.

Design arrangements enable the plant to be operated satisfactorily with a relatively small force of constant size. Operations began on July 27, 1941. The intervening time has allowed the city engineering force to acquaint their operators with the plant so that it may be run most efficiently.

Early Water Service Used Wooden Mains

Ninety-Five-Year-Old Tamarack Pipes Unearthed in Milwaukee

By P. C. Ziemke

TIMBER pipes for water supply, fashioned out of tamarack logs by pioneer carpenters ninety-five years ago in Milwaukee, Wisc., recently were unearthed during the process of a street improvement program. These pipes, to the surprise of wood experts, were in a good state of preservation despite their years of contact with the swampy soil.

Early history of Milwaukee discloses that these pipes furnished water to the old United States Hotel. The installation was constructed at the direction of James H. Rogers, owner of the hotel. The supply was connected to a clear, cold spring flowing from a gravel bed several blocks northeast of his hotel site. In studying this problem, he investigated the price of iron pipe and found it prohibitively high at that time. Consequently, in conjunction with James Brooks, a carpenter and logging operator of that period, he decided to use the rot-resistant tamarack from the nearby swampland of the Menominee Valley for this purpose.

Straight trunks, 10, 12, and 14 feet in length were bored through by hand after rough turning on an improvised lathe. The diameters of the rough logs varied from 10 to 16 inches. Service taps and couplings were developed by Henry Bleyer. These joints, coated with tar, proved highly satisfactory, their water-tightness being improved as moisture swelled the wood fibres.

Service connections were immediately popular for residents along the route of the main. The main served without operating expense until a fire in 1854 destroyed the hotel. After that, the burned extremity of the main was plugged, and the remaining customers continued to receive service until as late as 1879. The loss of the hotel, however, began agitation for efficient fire-fighting facilities. From this was born the first successful movement for a city-wide water system.

During the recent street repairs, one of the most persistent "sidewalk superintendents" was Dr. Malcolm Rogers, great grandson of James H. Rogers, the resourceful pioneer that laid this main. His interest was rewarded when the workmen uncovered sections of the old main which was unused and long forgotten.

The street improvement was the substitution of trackless trolleys for the conventional streetcar, which necessitated the repaving of a large section of Michigan Street and the subsequent modernization of underground facilities.

Dr. Malcolm Rogers examines some tamarack pipe recently removed from the streets of Milwaukee. The pipe was laid by Dr. Rogers' great-grandfather

Baltimore Develops Brick Marker for Auto Traffic Lanes

Efficient Marking Arrangement Using Self-Cleaning Brick of Highly Contrasting Color Facilitates Handling Traffic

By W. P. Fanning
Assistant Construction Engineer
Bureau of Highways

IN Baltimore, Md., marker bricks of contrasting color have been used extensively since 1936 to define traffic and pedestrian lanes. Many different designs and types of construction have been employed for the installation of these brick markers.

The first street on which brick markers were adopted was Maryland Avenue, where it was decided to place pedestrian lane markers at all intersecting streets. This was done by installing a double row of buff-colored bricks across the building line and curb line, thus creating a definite outline for pedestrian traffic.

Following this construction, markers were next placed on the 29th Street Bridge, and in the design of markers for this roadway automotive traffic was taken into consideration. A center line and two traffic-lane markers were used, spaced at intervals of ten feet across the street. Buff-colored bricks, spaced every second brick, were used on all marker lanes. These also were placed transversely in alternate rows with allowance for the shifting of brick, to insure a true alignment of the markers separating the traffic lanes.

The next location where markers were used, namely Fayette Street, was of different construction. Center-line markers were used, and traffic lanes were spaced at intervals of ten feet designated by the use of buff brick. However, the buff-colored bricks on the center line were spaced every second brick and on the traffic lanes every fourth brick. It was found that on this thoroughfare, which is an east and west street, the contrast due to the spacings was completely lost when driving toward the sunlight.

Marker construction on Lakewood Avenue was likewise changed. A center-line brick marker was installed from the pedestrian lane at the intersections for a distance of approximately 50 feet. Buff bricks were spaced every second brick.

Another design was decided upon and used on the Howard Street Viaduct, which has a width of 54 feet. The construction consisted of a buff brick marker with offset edges (solid line 4¼ inches wide) to mark the center line and two traffic-lane markers set at 9-foot intervals on either side of the center line. Traffic-lane markers were spaced every second brick. This combination has proved to be the most effective type of marker brick construction.

Superior Brick Developed

We noticed, however, that up until this time, on many of our streets, the contrast between the buff-colored and red brick was not clear enough. Oftimes on dark days, or very sunny ones, these markers would become somewhat indistinct. The brick manufacturers developed a lighter buff marker brick with a smooth top. We found that the marker brick we had used, the vertical fiber with wire cut surface, had a tendency to hold the dirt, thus causing the marker brick to become very dark in color. The paving brick company submitted samples of wire cut lug, smooth-surfaced, light buff brick, and we installed this type on one of the busy intersections in Baltimore, namely Charles and Chase Streets. It was

An effective center line 12¾ inches total width, with the solid line 4½ inches wide, made by off-setting the buff brick at the center

decided, after these marker bricks had been in place for a period of several months, that this would be adopted for all future streets to be paved.

It was necessary to change the method of construction on Howard Street, between Baltimore and Read Streets. Since this thoroughfare is one of the busiest in Baltimore, one-half of this street had to be kept open to traffic at all times in order to allow continuous operation of trackless trolleys. This was accomplished by construction of a concrete header, 12 inches in width and 12 inches deep, through the center of the street, which permitted the street to be completely paved in halves. The brick traffic-lane markers were set at a 10-foot distance from the center line and were spaced every second brick to form this outline.

Highland Avenue, between Philadelphia Road and Monument Street, was designed for a center-line marker only. The type used was a solid-color buff marker brick with offset edges. We have found that of all the various types of construction thus far used for center-line marking, the type mentioned above is the most effective and desirable.

Construction

In the marker brick construction, the first step taken is the establishment of the center line of the street.

Buff bricks form these longitudinal center lines, lane markers, and pedestrian crossings on Howard Street, Baltimore, Md.

All operations start from this point. Where a single buff-colored marker is used, an offset line of 4¼ inches off center is established and spot points given every 25 feet. This allows checking as paving progresses. In the event that a solid buff marker with offset edges is used for the center line, an offset line of 2⅛ inches is established. The buff brick in the first row is edged on this line; in the next row the buff marker is centered, which allows an overall width of 12¾ inches for the marker line, 6⅜ inches on each side of the center. Traffic-lane markers are also located from the center line. In the brick-dropping operation the markers for the center line are paved first with droppers or pavers working from the center of the street to the curb. This area is paved solid with red brick, but after the lines for the traffic lanes have been established the red bricks are taken out along the marker line and replaced with buff. We find this method to be economical, and also it avoids confusion in the paving operation. After all markers are placed and rolled they are realigned to correct any distortion. The cutting-in operation is held up until all markers are lined which allows shifting of brick where necessary.

On the brick-paved streets of Baltimore, where traffic-lane markers have been installed, the movement of traffic has been made speedier and safer. Traffic is better regulated and the entire space between curbs is utilized to the fullest advantage.

ACKNOWLEDGEMENT: Abstracted by permission from *Dependable Highways.*

A center-line marked on Caton Ave., Baltimore, Md., made by the insertion of a single buff brick at the center in alternate rows

• • • —

"It is not enough that men should vote; it is not enough that they should be theoretically equal before the law. They must have liberty to avail themselves of the opportunities and means of life; they must stand on equal terms with reference to the bounty of nature. Either this or Liberty withdraws her light."

HENRY GEORGE

Shallow Lake Supply Supplemented by Wells

Watertown, S. Dak., Uses 5,000-Acre Lake Kampeska as Primary Source, with Shallow Wells To Make Up Demand

IT IS always well to have another trick up one's sleeve in order to get out of a tight place. Watertown, S. Dak., has done just this, but holds two tricks against a failure of the major source of its water supply, Lake Kampeska. The lake has a depth ranging from 12 to 15 feet and covers 5,000 acres. The intake from the pumping station is an 18-inch cast-iron line extending 1,200 feet into the lake. This is supplemented by a second 12-inch line running 1,000 feet out. During the severe drought of 1937, the lake nearly disappeared and that was when the supplementary system proved its value.

The Reserve Supply

The reserve water supply consists of four wells. One, which is located near the Swift Company slaughtering plant, has a capacity of 400,000 gallons per day, is on a ¾-mile dead end, gives good cold water which is desired by the plant, and helps the pressure. The well is 30 feet deep, has a 30-inch casing, and is equipped with a Fairbanks-Morse well pump and motor; in the brick well house is also located a Wallace & Tiernan vacuum chlorinator. This particular well is operated during the six summer months because of the demands of the slaughterhouse. The other three wells are literally held in reserve, and have a capacity of 350 gpm each. They are all equipped with Fairbanks-Morse pumps and motors and all discharge into the same line, in which the water is chlorinated with a W & T chlorinator. At each chlorinator installation a small Westco pump is used to provide the solution water for the chlorinator.

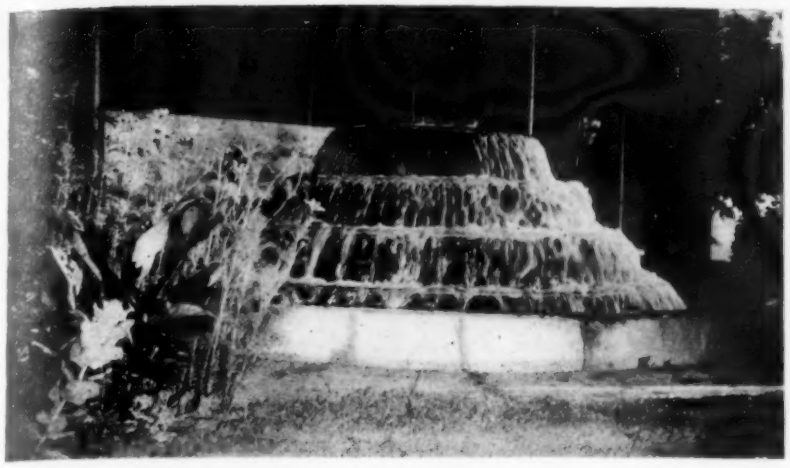
The Lake Pumping Station

The pumping station is located close to the shore of Lake Kampeska. It contains both the low- and high-lift pumps and is connected by a corridor to the new filter plant. The low-lift pumps for handling raw water are two in number, both single-stage pumps: a 750-gpm pump with a 10-hp motor and a 1,200-gpm pump with a 15-hp motor, both pumping against a 35-foot head to the aerator. The standby pump for the raw water service, for use in case of a breakdown at the municipal electric plant, is a 4-cylinder gasoline tractor engine for direct connection to the 1,200-gpm pump. All these pumps, as well as the motor-driven high-lift pumps, are Manistee centrifugal pumps and are driven by Ideal electric motors.

The high-lift pumps handling filtered water include a 500-gpm two-stage centrifugal with a 6-inch discharge and driven by a 40-hp motor, and a 750-gpm two-stage centrifugal with a 6-inch discharge and driven by a 75-hp motor. The standby unit is a Fairbanks-Morse 1,150-gpm two-stage centrifugal with a Fairbanks-Morse 100-hp motor on one end of the shaft, and on the other end with a clutch is a Sterling 6-cylinder 150-hp gasoline engine.

A Simplex 12 x 5 venturi meter measures all the water delivered into the distribution system by the

A general view of the Watertown, S. Dak. filtration plant and aerator



A close-up of the aerator in front of the filtration plant at Watertown, S. Dak.

high-level pumps. A recording pressure-gage shows the time and pressure developed by the operation of each pump, while a dial gage is marked for the pumping pressures developed by each pump and a top mark indicating the pressure at which the high-lift pumps operating should be stopped. A Foxboro recording-gage shows the depth of water in the clear well so that the pumps will not over-operate and lose suction.

All the pumps are located in one room at ground level at the back of the plant where the ground slopes down to the lake; while the electrical control panels are in a gallery above the pump floor, but still at ground level higher on the slope.

Chemical Treatment and Filtration

At a still higher level at the front of the plant, but still on the first floor, storage is provided for the two dry chemicals used, alum and sodium aluminate. The alum is fed at an average dose of 1.25 grains per gallon by a Municipal Service Company dry feeder, and the sodium aluminate at the rate of 0.25 grains per gallon by a homemade reciprocating apron feeder. The doses of chemicals are increased about 50 per cent in winter because of the slower reaction of the chemicals. The chemical solutions are delivered to the effluent of the aerator as it returns from the attractive outdoor aerator at the front of the building and runs through a baffled mixing channel and thence into a coagulation basin equipped with round-the-end and over-and-under baffles. After the water has remained a period of 30 minutes in the coagulating basin, it flows to the settling basin where there is a detention period of 2 hours. This basin is cleaned once a month.

The water is treated with chlorine and ammonia as it flows through the coagulating basin. A separate room is provided for the Wallace & Tiernan solution feed vacuum type chlorinator and the W & T ammoniator. Chlorine is applied at the rate of 18.5 pounds per 24 hours, or 2 ppm, and the ammonia at the rate of 1 ppm. Platform scales are provided for weighing the tanks for both of these gases to check the delivery of the chemicals.

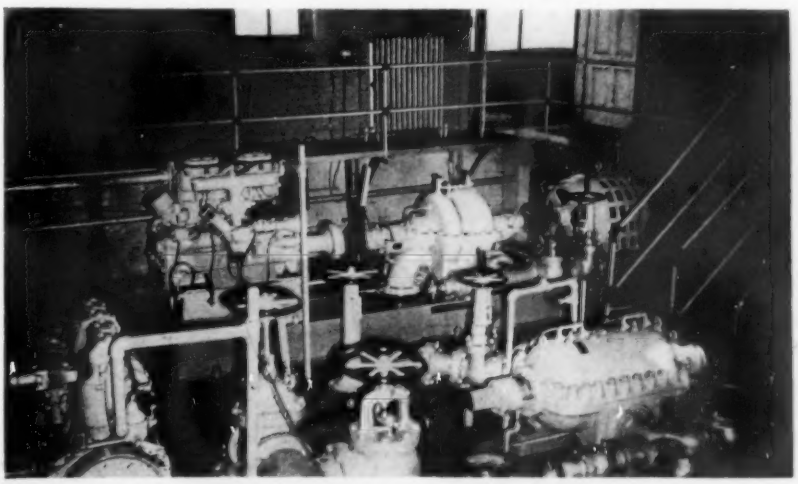
The plant is equipped with four sand filters with hand-operated control valves. The total capacity of the filters is 1½ mgd, the rate is controlled by a Simplex rate-of-flow controller, and the operation of the filters is checked by Simplex loss-of-head gages.

The filters are equipped with cast-iron manifolds and laterals with ⅜-inch holes in the bottom. A 24-inch depth of gravel and 30 inches of sand are placed over the drainage system, and then 48 inches of water is the usual head maintained over the sand for filtration. This amounts to 11½ feet over the two concrete wash-water troughs which run from front to back of each filter.

There is a well-designed pipe gallery with ample space for moving around to make repairs or to stop leaks if necessary. The wash-water pump, a Manistee centrifugal of 2,100 gpm and driven by an Ideal 10-hp electric motor, is located in the pipe gallery. This pump gives a back-wash for the filters with a vertical rise of 24 inches per minute. This pump and all others in the water works are operated with motors at 220 volts, 3-phase current from the municipal power plant.

The water from the filters flows to a 50,000-gallon clear well which is located part under the filters and part underground outside the building. The available storage in the city consists of one 1,000,000-gallon standpipe and a 255,000-gallon standpipe located side by side on the highest hill in town, giving

(Continued on page 53)



The main pump room at the Watertown, S. Dak., water works, showing the Sterling 150-gasoline standby engine in the left background

Central Tabulating in Detroit's Department of Public Welfare

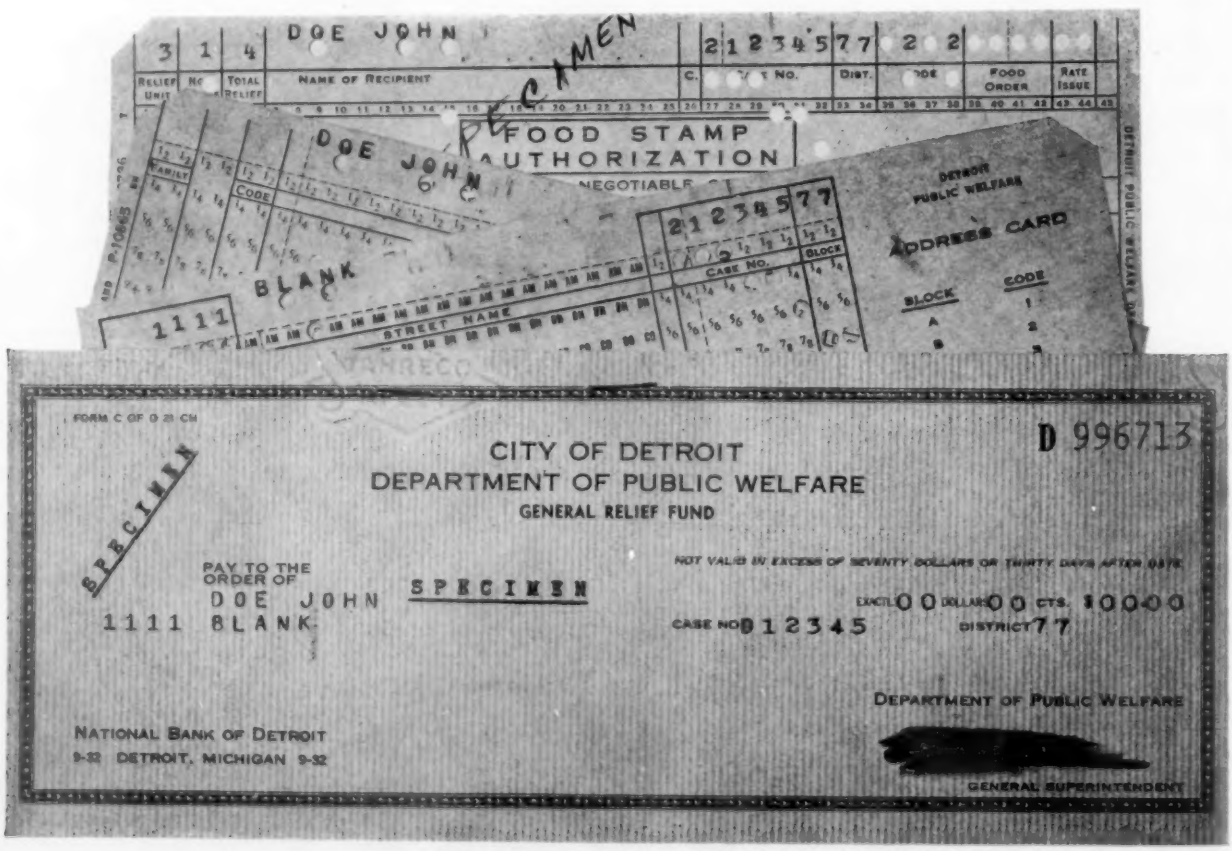
By D. J. Ryan, Jr.
Senior Administrative Assistant
Department of Public Welfare
Detroit, Mich.

EARLY in January 1939, Remington Rand tabulating equipment was installed in the Central Checkwriting Division of the Detroit Department of Public Welfare to write checks and orders for welfare clients and post relief issuances. Since then, not only has the tabulating equipment handled this work, but also it has taken over the tabulating work of the statistical department as well. In 1939 we had the following numbers of employees in these divisions:

Central Checkwriting	17
Posting	17
Rent	2
Statistical	20
Payroll Audit	3
	59 employees
We now have	34 employees

The operation of the tabulating equipment, as indicated, has been extended from the simple writing and posting of relief orders to a point where this equipment handles recording of all rent, setting up and preparing all statistical information, setting up and preparing daily analyses of relief by every category in code, setting up and obtaining information for various analyses on personnel payroll, preparing information as to total amounts of relief itemized for individual cases, and setting up and maintaining information on all employable persons in the relief rolls. All the information, both financial and statistical, necessary for any reports is obtained now through the use of these machines. This work was formerly done by several different types of equipment located in various divisions of our department. The consolidation of central checkwriting, statistical, posting, and rent departments has made the central tabulating division one central source of information, and inasmuch as a constant check and balance is kept on all the files of the tabulating cards, the information reflected on them is at all times reliable and accurate.

By mechanized system, we formerly posted to individual ledger cards. Under the present system, relief is posted to a daily journal sheet, and the tabulating-machine cards are sorted at the end of each month and posted to a monthly ledger, giving individual totals of relief issuances by type of relief for



Tabulating cards and the check they write

each case active during the period.

The tabulating equipment now in use comprises two numerical tabulating machines for posting of relief, one alphabetical tabulator for writing of checks, orders, lists, and statistical information, three automatic key punches, two interpreters, one multi-control reproducer, and four card-counting sorters, as well as one standard reproducer. This equipment represents a monthly rental of $1,297. Cards for use in these machines approximate $1.05 per thousand. Forms which we use on these machines are the daily journal sheets, monthly ledger sheets, check registers, proof sheets, cash checks, sundry orders, fuel orders, rent checks, food stamp record cards, federal food stamp orders, WPA transmittal sheets, and postcards.

Proof sheets are sent to the various district offices daily on cases which were opened or suspended the previous day. An average of 1,500 checks and orders are written daily at present, and postings are made daily on these 1,500 orders. Approximately 1,500 food stamp cards are made and posted daily. These cards are also balanced daily with the receipts and disbursements of the stamp disbursing department, by use of tabulating machines. At present, there is an average of 70 openings daily on which new cards must be set up in the master file, and about 25 tabulating-machine cards must be set up daily in the rent file. At this writing, suspensions approximate the same number as openings.

Efficiency, Economy, Convenience

A good illustration of the convenience in using tabulating cards may be drawn from actual experience. In 1932, the Federal Government requested a survey as to number of persons in the budget and sex. This study took approximately 10 nights to complete with about 20 persons working 10 to 12 hours per night. The same study today could be run from the cards by one operator in approximately 12 hours.

In 1932, prior to recording statistical data on punched tabulating cards, we had approximately 15 persons gathering statistics necessary for federal, state and city government. The only actual counts made were intake; cases receiving relief; service and principal problem of under-care cases; all other statistics were based on sample counts except in rare instances. At present, we have approximately the same number of people engaged in gathering statistics, the scope of which has been enlarged tenfold, with accurate dependable counts.

One of the most valuable assets in having statistics on tabulating cards is that material is available months and years after for sorting and tabulating to make comparative studies. An example of this is a request received from the Congressional House Committee studying migration, covering preparation of an extensive report on migration of welfare recipients. We quote from a letter received from Representative Tolan, chairman of the committee:

> Your report was the most comprehensive welfare and migration report submitted to the Committee to date. You may be interested to know that we plan to use it as a pattern in the future. The members of the field staff of the Committee have told me of the *volume of work* that your organization undertook *in a limited time* to assist us to compile data that the Committee has not been able to ascertain in previous hearings.

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Shallow Lake Supply Supplemented by Wells

(Continued from page 51)

an average pressure in the city of 50 pounds per square inch.

Consumption and Metering

The average daily pumpage in Watertown, a city of 10,500 population, is 1.5 mgd from the lake in summer and about 800,000 gallons daily in winter. These are supplemented during the summer by the 400,000 gallons daily supplied by the large well. The city is 100 per cent metered.

The lake water has a hardness of 15 grains per gallon and the wells 30 to 35 grains per gallon, but on the few occasions when well water has been used in the system there have been no complaints from consumers. The only time that the wells are used is when there is an occurrence of algae in Lake Kampeska.

The municipal water works at Watertown are operated under the direction of Ralph Reed, City Engineer and Superintendent of the Water Department, to whom we are indebted for this material.

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Cincinnati Adopts Utility Rate Adjustment Plan

AN ordinance to fix utility rates and still allow for adjustments necessitated by fluctuations in costs has been adopted by Cincinnati, the American Municipal Association states. A special feature of the ordinance allows for adjustments because of increased wage or salary rates.

Schedules established by the ordinance are based on operating costs and gross revenue prevailing as of October 29, 1941.

Local operating gas and electric companies are authorized to adjust these rates in the event that "increased expenses are incurred by the company by reason of increased wage or salary rates, or increased fuel costs per ton in the gas generating plants, or increased taxes in excess of the scales of tax rates prevailing at the date of passage of this ordinance, or any other increase in or new taxes."

The utility company is required to file with the Cincinnati city council an application for increases, supported by affidavits, and the city director of public utilities has access to books and records of the company for the purpose of verifying its claims.

New Wheeling Bridge a Vital Need to City

Wheeling, W. Va., Builds Steel and Concrete Structure Above Floods for Smoother Flow of Traffic

THE talk, planning, and need for a new bridge across Wheeling Creek at Chapline Street in Wheeling has been continuing for 30 years, but the realization is now close at hand. A city bond issue for $300,000 is financing the acquisition of right of way and the entire construction of a 324-foot steel and concrete bridge spanning the deep ravine of the creek well above the highest recorded floods. Traffic on U. S. 250 coming north from Clarksburg, W. Va., and on West Virginia 2 from Parkersburg and continuing on to Pittsburgh has been forced to swing left a block at the creek, then turn right onto another heavy traffic street, cross the Market Street bridge which is topped in medium floods, and then turn left again to go north on Chapline Street. During floods all traffic is stopped.

The new Chapline Street bridge will go straight across the creek and, with a short approach street at the north end, will carry traffic direct to the continuation of Chapline Street through an underpass beneath the Baltimore & Ohio tracks which is the lowest point in that vicinity. Since the track level cannot be raised, a ramp is being built to the east into 18th Street carrying traffic to Eoff Street, which is higher and will still further spread traffic and keep the route open to civil and military traffic in times of high water in the Ohio River. The elevation of the two existing bridges—the Main and Market Street bridges, which are both topped at flood stages—are approximately 45 feet each, while the new bridge will carry traffic until a 54-foot stage is reached.

The Chapline Street Bridge

The new bridge which will be completed by June, 1942, will carry a 44-foot roadway and have a channel span of 110 feet with balanced spans at either end each 55 feet long. The structure is designed in an unusual manner with the center span of the girders balancing the end spans because of the possibility of some settlement at the abutment due to the character of the ground. As originally designed, there was to be a fill with concrete cribbing at the sides at the south end of the bridge. Inasmuch as this is over an old fill, it was considered better to carry the roadway on a 104-foot concrete span.

In addition to the 44-foot roadway, there are 8-foot sidewalks at either side. The ramp in 18th Street carrying traffic to Eoff Street has a 27-foot roadway and one 5-foot sidewalk. The deck of both the steel and concrete span is 8 inches thick of reinforced concrete. The bridge, while not being built with federal funds as a defense project, is nevertheless of vital importance to traffic in West Virginia and in the Ohio Valley.

Foundations

The foundation footings for all the piers except the north abutment are carried to hardpan to approximately the same depth, about 40 feet below ground level or 25 feet below the elevation of the creek. The north abutment is carried on 50-foot timber piles because it is located on a deep fill made many years ago which does not have sufficient bearing to make a reliable foundation for the structure.

Personnel

The new Chapline Street bridge in Wheeling, W. Va., was designed by Harrington & Cortlyou, Consulting Engineers of Kansas City, Mo., and is being built under the direction of Engstrom & Wynn, Associate Engineers. The contract for the sub-structure and the erection of the steel was awarded to Holmes Construction Co. of Wooster, Ohio, and the steel was fabricated by the Mt. Vernon Bridge Co. of Mt. Vernon, Ohio.

View across Wheeling Creek, showing the coffer-dams for the river-bank pier of the new Chapline Street Bridge, Wheeling, W. Va.

Capital's Ideal Street-Name System Extended 7 Miles through Maryland

Distinctive Regional Adaptations Included after 11 Years of Research

By Bryant Alden Long

ONE of America's most important metropolitan districts, comprising the northeast Maryland suburbs of the National Capital and containing some 40,000 people, has just adopted a modern scientific street-name system which is primarily a continuation of the nearly perfect plan of Washington, D. C. Some interesting and distinctive modifications were included in the plan, which was installed in August following 11 years' research.

Base lines of the artistic new system are North Capitol Street and East Capitol Street in Washington. These streets radiate north and east from the United States Capitol and form the two inner boundaries of that city's northeast section.

Lettered and Named Streets

Progressing eastward from North Capitol, a regular series of numbered (north-south) streets now continues beyond the District of Columbia line throughout dozens of Maryland suburbs to numbers as high as 95th Avenue. Progressing northward, the system consists of five alphabets of lettered or named east-west streets, arranged in this regular order:

1.—Letters of the alphabet (in D. C. only): A Street, B Street, etc.

2.—Alphabetized 2-syllable names of famous Americans (mostly in D. C.; some streets crossing into Mt. Rainier, Bladensburg, and Brentwood, Md.): Adams Street, Bryant Street, etc.

3.—Alphabetized 3-syllable names of famous Americans (identical names used in northern Washington, D. C.; and in Hyattsville, Riverdale, Edmonston, Md., and vicinity): Allison Street, Buchanan Street, etc.

4.—Alphabetized names of colleges (in Maryland only, College Park and vicinity): Austin Road, Clemson Road, etc.

5.—Alphabetized Indian names (in Maryland only, Berwyn-Branchville area): Apache St., Blackfoot Street, etc.

Washington house numbers have been continued by the regular block system throughout the area, running northward as high as 12,500, seven miles from the District of Columbia line. All streets roughly in line with streets in Washington bear either the same or a corresponding name; while extra, close-space streets are either numbered "Places" or named "Roads," some of the latter having names of local historical significance.

At the point where any street crosses the District of Columbia line into Maryland, the designation "N.E." is dropped; and except in adjacent Mt. Rainier and Brentwood, the designation "Avenue" commences on all north-south (numbered) thoroughfares, instead of "Street." The most important "Avenue" is Baltimore Avenue which, as U. S. Highway No. 1, is the area's great main boulevard. Said to be the busiest road in America, this particular section connects Washington with Baltimore; and at long range, Florida with Maine. Being in line with 45th Street N.E. in Washington, this entire five-mile stretch of the Boulevard marks off the 4500 block on all east-west streets; but the designation "45th Avenue" was deemed unsuitable for this main artery. All "Streets" run east and west.

One short section of the Boulevard, which twists westward to enter Washington as "Bladensburg Road," was not included in the "Baltimore Avenue" designation. It is a wise principle of the new scheme that when a street changes direction sharply each segment is then named separately in regular order.

Places Affected

Places affected include Hyattsville, the area's metropolis, an attractive suburban city which houses 6,500 government employees and other citizens; College Park, seat of the University of Maryland; historic but nondescript Bladensburg, of dueling-ground and War of 1812 fame; suburban Riverdale, co-extensive with Hyattsville and built around the ancient Lord Calvert mansion; and Mt. Rainier, a state-line suburb with streets crossing into Washington, D. C., or running along the line, and until recently America's largest town without a gas-station.

Many other historic places dot the area, which is served by the B & O Railroad's main line, an airport, a long suburban trolley route, and numerous highways. Most of these main highways had names which could be adapted for use in the plan with little or no change, as in the case of Rhode Island Avenue which sweeps eastward and northward from western Washington to Mt. Rainier, Brentwood, and Hyattsville.

How the Plan Evolved

As early as July, 1930, a rough "D.C. extension plan" had been submitted to Hyattsville's Mayor and Council (by this writer). Later, citizens occasionally suggested new regular house-number systems or improved street names; but nothing was done. In July 1937, the Maryland Legislature authorized the newly formed Maryland-National Capital Park and Planning Commission to scientifically re-name and number all streets of the metropolitan area. Albert E. Bryan of the Commission appointed C. Harold Gray of the National Highway Users' Conference (who had independently designed his own "D.C. extension plan") and this writer, to draw up a new

and complete composite street-name system. Mr. Bryan and Commission engineers revised the plan, meanwhile issuing publicity which fell mostly before unheeding eyes. Complications, including the resignation of Mr. Bryan, delayed matters until March, 1940. Then Commission official R. M. Watkins and Ben Dyer drafted the final plan, and published the name-changes in local newspapers as becoming effective on May 1, 1940. A great hue and cry of protest meetings and seething letters held things up; but in August 1941, the new names and numbers were actually installed under supervision of Perce Wolfe and R. M. Watkins of the Commission.

In Hyattsville, where the new plan largely orginated, the protests were strongest of all. The older citizens are still appealing to court; but younger residents favor the plan. Knowing how Dr. J. H. Rogers of this progressive community first invented the teleprinter, they noted the amazing fact that an honored high communications official who *now* resides there was pleading against the change—a change which experience has shown greatly facilitates deliveries of mail, telegrams, and merchandise!

But citizens are being largely won over as they see how easily residents and visitors can find an address, now that a street name and number indicate its exact location. The plan has its faults, such as a sad scarcity of names of local and state significance—one of the features of the original joint plan of 1937. Yet the plan marks a new milestone in municipal progress; and the new layout is now a welcome improvement in these busy "Capital Gateway" suburbs.

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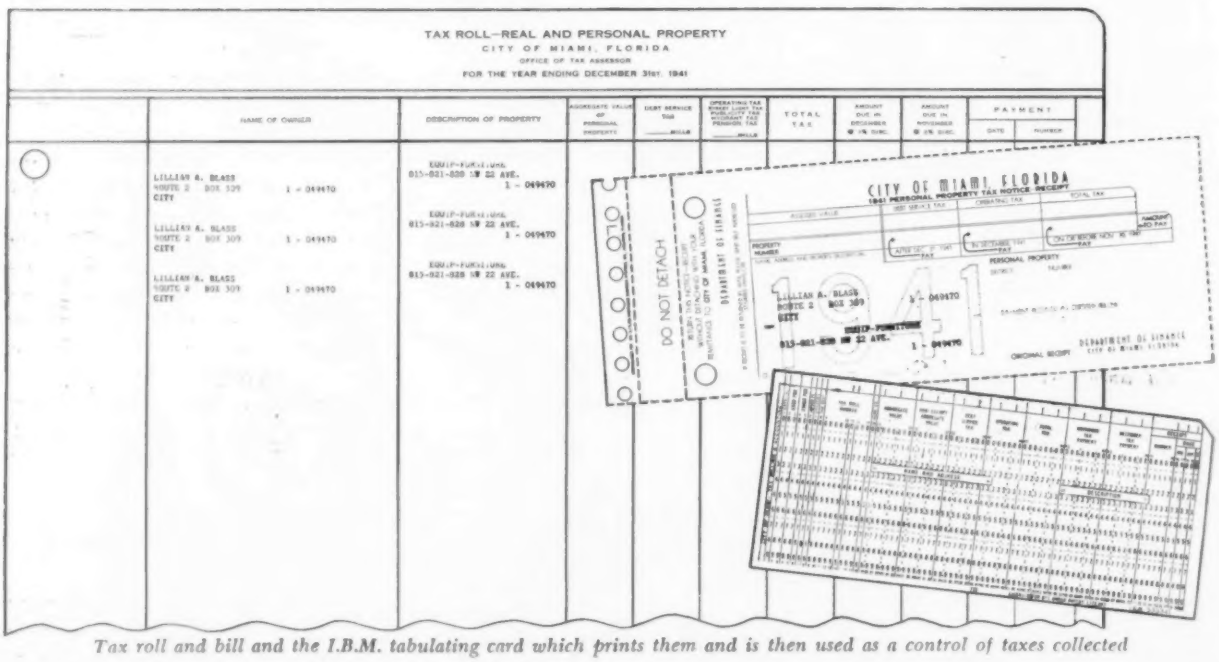
Billing Miami's Taxes

By GERALD R. GREEN
City Assessor, Miami, Fla.



Tax roll and bill and the I.B.M. tabulating card which prints them and is then used as a control of taxes collected

REAL property and tangible personal property of the taxpayers of Miami, Fla., are assessed in separate assessment rolls. The Assessor's office is equipped with Addressograph machines, and a description of each property, and the name and address of the owner are embossed on a metal plate for each parcel.

The Assessor furnishes a rough copy of the assessment roll to the Accounting Division, together with a copy of the new assessment roll and a set of bills prepared as to owner's name and property description. The Accounting Division is equipped with International electric accounting machines which print the assessed value and the tax on both the tax roll and the bills, which are then forwarded to the Tax Collector for mailing.

The tabulating card used for printing the roll and bills is then used as a control of taxes collected.

The bill is made in duplicate, the entire form being mailed to the taxpayer, who returns it to the cashier's window with his payment. The form is receipted on a Burroughs receipting machine; the original and duplicate are separated, the original going to the taxpayer, the cashier retaining the carbon.

The cash collections are deposited in the bank by the cashier, the deposit receipt and the duplicate tax receipts being turned in to the Auditing Division daily.

This system of billing and receipts has been in use about five years, and one cashier, with one relief cashier, is easily able to handle our 100,000 accounts, amounting to 4¾ millions of dollars during our tax-paying period of five months.

Long-Range Aviation Plans for Chicago Region

Chicago Planning Agencies Analyze Future Aviation Demands in Chicago and Environs

"WHEN every pilot can confidently expect to find a safe landing place near his contemplated destination, then aviation will become an even more accepted mode of transportation not only for business trips on commercial lines but for families as well." This statement is contained in a joint report issued recently by the Chicago Association of Commerce, the Chicago Plan Commission, and the Chicago Regional Planning Association. In this report the writers have coolly and dispassionately analyzed the need for and the future demands of aviation in the region of Chicago and have recommended action that they feel will alleviate conditions bound to occur in the future.

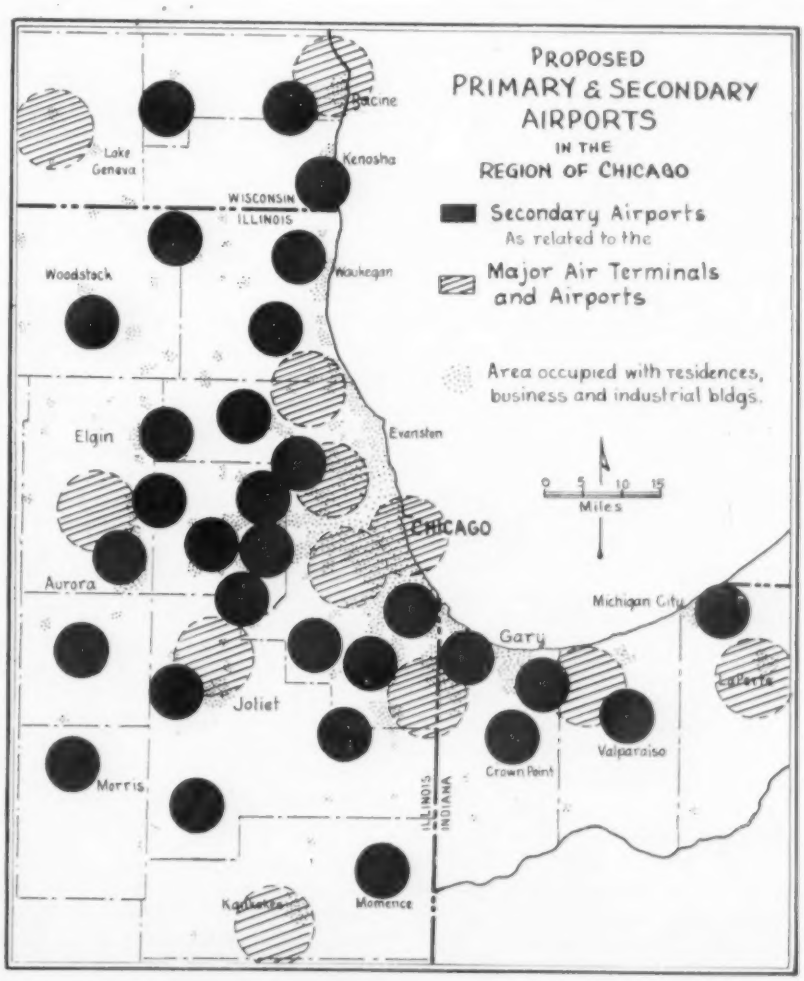
The program contemplates twelve publicly owned airports of sufficient national interest to justify some federal assistance. It is recommended that the state should develop another thirty and, accordingly, retain some measure of control in their operation. The final thirty, it is hoped, will develop entirely from private funds and will find use by students and less experienced flyers. The program demonstrates its flexibility in that the twelve publicly owned airports constitute the basic foundation. The number of state and privately owned airports may be increased or decreased in accordance with aviation growth.

Actually, there has not been increased airport construction to any great extent in the Chicago area. During the last 12 years airport construction has grown less than 12 per cent while in this same period air passenger service has grown more than 500 per cent.

In anticipating the growth of air travel in this area, the report expects that this mode of transportation will accommodate nearly 5,000,000 passengers by 1950. The number of passengers per plane, it is estimated, will reach a high of twenty-four. Plane movements are placed at 83 per hour.

Air mail now is carried almost exclusively by the same planes that carry passengers. However, it is quite within the realm of possibility that all first-class mail will be transported by air and, consequently, will require separate craft. In that event, airmail carriers logically would require additional airport facilities.

Air transport for express and freight has so recently developed that, as the report points out, future estimates on this subject are difficult to make intelligently. Operation, it is hoped, can be arranged so that this traffic can be handled in the same terminal when its capacity is not fully utilized for the handling of mail. It well may be anticipated, however, that express and freight traffic will become so great that additional facilities



will become necessary. Undoubtedly special types of cargo ships of greater size than are now used will be developed for this class of air traffic.

The cost of small planes, the report states, may be expected to drop in the future. At the present time, a small plane retails at $2.50 per pound, or approximately eight times the cost of an automobile. However, it seems feasible for the cost to be reduced to only $1.00 per pound, and the weight to be in a range of 600 to 800 pounds, placing a plane in the direct price range of a car. Direct operating expenses are now comparable.

The Master Plan

The report contemplates that the twelve publicly owned ports forming the nucleus of the plan be subdivided as follows: three major near-in terminals from 3 to 10 miles from the Loop District; four major inner-belt airports 20 to 40 miles from the Loop District; and five major outer-belt airports 40 to 60 miles from the Loop District.

The report suggests that a lake-front airport below lake level and behind water-tight dykes might be considered in developing one of the major near-in terminals. This, it is pointed out, would be less expensive than a completed island made by fill over submerged land. All the large terminals should be carefully spaced to be available for instrument landing. They should have the most effective ground transportation.

The thirty secondary state-owned airports, the writers expect, will serve commercial and non-scheduled flights, and will be possible feeders to major airports. They may further be the focal point of all private night flying and will be general headquarters for experienced private flyers. They need not be publicly owned but should be granted public aid in development. Ships using these ports will not be of the largest size; consequently, the runways will range between 2,500 to 3,500 feet in length. The airports should be at least six miles from the larger main airports.

The report suggests that the final thirty minor airports will serve primarily for pilot training. They will be privately owned and operated, but regulated to insure non-interference with the larger terminals. No instrument flying equipment should be installed, and night flying may be prohibited. These minor ports will be similar to most of the present airports, although they will no doubt be more active than the present fields.

Gliderports

Several sites, the report states, should be reserved for gliderports. These should be at least 12 miles from Lake Michigan to avoid the tempering effect of the water on the air. There are now two in use in this region.

The report considers that while a certain amount of general public funds might reasonably be available, an effort should be made to have the users support the facilities as much as possible. Just as state highways are supported by gas taxes and licenses, similarly a state system of airports might be supported by taxes on the users of the ports. License fees on the planes and sales taxes on the planes and parts, if allocated to airport development, would yield significant amounts as the total sales of planes increase.

As previously stated, the comprehensive plan anticipates airport construction for the entire Chicago region and would place ports in Illinois, Indiana, and Wisconsin. These states, it is pointed out, already have enabling legislation to facilitate this construction. The procedure varies somewhat for each state, but in each case would accomplish the required purpose.

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Win the Confidence of Reporters, Mr. City Official

DON'T overlook your best publicity medium — the reporter. Some public officials, especially in smaller communities, fail to realize that a reporter should be listed among their best friends, and that through the newsman they can best inform the public of their aims and work.

Reporters whose stories undoubtedly shape public opinion toward you and your administration of public affairs, are not scandal-digging rummies. They are just as proud in writing news of civic improvements in their own community as you are of introducing new and improved public methods and services.

A public administrator who attempts to hold back information from reporters is like a man attempting to ward off a Stuka bomber with an air pistol. Stories have a way of reaching the eager ears of the reporter, and the attempt on the part of an official to withhold facts which the reporter deems are of public interest only spurs the news hawk to dig up facts and rush them into print.

Some times information coming second-handed contradicts the official information. However, the fault does not lie with the reporter but with the official who failed to take reporters into his confidence. Within reason, a reporter will cooperate and upon your request will refrain from publishing a story which might be detrimental to his community or to your position. Telling a reporter that he cannot use certain information will cause antagonism.

Newsmen abhor handouts. Take a few minutes to tell them the information and give them a chance to ask questions. The story will reach the reader in more complete and accurate form if you confer with the reporter instead of permitting your secretary to pass out releases. A written statement is welcomed by writers if they are permitted to ask for interpretation.

You should make reporters your ambassadors in the field of public opinion. Reporters can transmit your messages to the public and they also can bring you reports of the voter's opinion of you and your policies. Some officials ask reporters for their advice on public questions.

If you have spoken to reporters reluctantly so far, one of your resolutions should be to make news writers your business friends. If possible, treat all reporters equally; favoring one will cause others to turn against you. Making them your personal friends will not be detrimental to your success, which largely depends on winning and maintaining public support.

—JOSEPH A. POSKUS.

Revising the Local Building Code

To Prohibit Jerry-Building While Not Requiring Needlessly Expensive Construction

By GEORGE N. THOMPSON
Chief, Building Codes Section
National Bureau of Standards

The National Bureau of Standards provides a clearing house for information about building codes throughout the country. Results of research and of surveys, and other information, are made available to local communities that are engaged in preparing or revising building codes. Correspondence should be addressed to the Division of Codes and Specifications, National Bureau of Standards, Washington, D. C.

CURRENT articles on building codes emphasize that many codes now in force are "antiquated and outmoded." To a newly appointed local code committee such criticism does not help very much. What the committee would like to know is how to prepare a code that will not be subjected to the same criticism within a short time. It is, of course, helpful to have weak spots pointed out, but this is on the negative side. It is necessary for the committee to proceed in a positive way to develop requirements that will work. To do this demands something more than changing figures here and there in the old code. It is necessary to look into fundamentals.

Analysis of the causes which make requirements antiquated and outmoded will disclose that legal as well as technical problems are involved. Changes in the art of construction are taking place all the time, as will be seen in the successive editions of standards of quality and construction, issued by the American Society for Testing Materials, the American Standards Association, and other representative technical bodies. To take advantage of these changes may mean substantial savings in materials and expense without sacrifice of safety. Yet the manner of doing this offers legal complications of which a local committee should be aware.

Adoption by Reference

Building code requirements should be certain in their terms and should not delegate legislative authority. In the case of references to standards of quality of material and of construction, matters with which the building code is vitally concerned, this means in the minds of many that standards of private technical organizations when used must be identified by name, number, and year of adoption by the sponsoring organization. When reference is made in this way, however, use of the particular standard mentioned in the code becomes fixed until the code is amended, while the organization that originally produced the standard may bring out improvements in succeeding years. As a rule, nothing is done about amending the code to keep up with these changes, with the result that it continues to fall behind the march of technological progress. Here is one way in which the code becomes "antiquated and outmoded."

The local committee may guard against this in several ways. One would be to identify the standards as described above and then set up some machinery through which new standards could be brought before the local legislative body annually in the form of amendments to the code. This will satisfy legal requirements. However, this procedure is likely to be neglected. Another and more flexible way is to require good practice in the code and cite the use of certain approved standards identified by name as evidence of good practice. Such a provision has been employed in some codes and has had the approval of city attorneys. When carefully worded, so as to avoid turning over legislative authority to a private body, it serves a very useful purpose in keeping codes up to date. Local code committees should consult their city attorneys on this matter, emphasizing that the serious technical situation involved deserves cooperation in the form of legal ingenuity.

Authorizing New Materials and Methods

Special attention needs to be given to the method of dealing with new materials and new methods of construction. This matter has probably occasioned more complaint than any other. It is fairly obvious that if each new material has to fight its way through a non-technical local legislative body in the face of open or covert opposition from its competitors, introduction of new ideas will be slow. The way in which the matter is handled in a good many codes is to authorize the building official or (perhaps better) a local board to pass upon the new material on the basis of test results and other pertinent information. This is the most effective way of assuring prompt consideration and decision. There are problems of how to interpret test data that are still to be worked out, but the general provision incorporated in the code will establish a system, the details of which can be perfected as time goes on.

The extent to which discretion can be given the local official in carrying out the intent of the code should receive consideration and be the subject of legal advice. In some communities a rather narrow con-

struction is placed upon this matter, although in the daily operations of the building official's office discretion is probably exercised all the time. One way in which it may be used is in the form of rulings that supplement the code, without, however, attempting to create new law. Local opinion and legal advice will vary as to the extent and manner in which this may be done. The limits of discretionary power should be thoroughly considered with reference to providing desirable flexibility in administering the code, since the wording of requirements will be affected by the policy determined.

Performance Requirements

Still another matter that will affect the future usefulness of the code is the extent to which use is made of performance requirements rather than detailed ones. For instance, fire resistance of partitions between apartments may be required to be one hour under the ASTM Standard Fire Test or the requirement may be worded as a certain thickness of gypsum plaster applied on metal lath on both sides of the partition. The first method allows a variety of constructions, thus providing not only for all existing materials but also for others that may be developed in the future. The second will provide the necessary protection but will narrow the field of choice. If, as is sometimes contended, the performance method is felt to be too vague and not sufficiently informative as to exactly what may be used, the requirement may carry some familiar construction and then say "or other construction having a fire resistance of one hour under the standard fire test." This supplies the information needed but does not freeze the requirement. For codes that carry an appendix, a very desirable feature by the way, ample opportunity exists to cite a variety of constructions that have been proved under test to meet the general performance requirement.

In writing the code, thought should also be given to the probable administrative conditions that will prevail in the particular community concerned. Many municipalities have wholly inadequate inspection staffs in relation to the amount of work to be done. If this condition is present, much of the intensive work on providing technically good requirements may be wasted for lack of a means of putting the requirements into effect. The local situation should be carefully analyzed and if the prospects for full inspection coverage are not as promising as they should be, consideration should be given to code provisions permitting the use of supplemental services. In other words, the building official may be empowered to accept written reports of representatives of fire underwriters or other responsible private organizations as evidence of compliance with the code, or possibly inspectors paid by the owner may be required on large building projects.

Methods of Arrangement

Having determined in what way and how far it can go in dealing with the foregoing problems, the committee will need to fix the structure of the code through choice of a method of arrangement. There are two principal methods, and a number of hybrids that are best to avoid. One method covers requirements according to occupancy, such as office buildings, apartment buildings, and so on, in separate chapters. Requirements common to all are grouped in additional chapters. The other type of arrangement is by subjects, such as loads and stresses, fire resistance, exits, and so on. Both types can be made to work well and both have strong advocates. The second type lends itself to compactness and reduces the number of cross references, but it is dependent on a thorough index for best results. Examples of each type are easily obtainable, and a selection once made will facilitate work by providing niches into which specific requirements may be fitted as they are finished.

With the general character of the code determined by these exploratory operations, the local committee should then be in a position to proceed with the utilization of technical material according to a well-considered plan. Available source material is given in a publication bearing the title $CB6_9$, "Information on Sources of Material for Use in Preparing and Revising Building Codes," which has been issued by the Building Code Correlating Committee of the American Standards Association. By comparison with even a few years ago, the quantity and quality of technical material are greatly increased, and the main concern is how to use it to the best advantage. By referring back each question that arises to the general principles established in advance, the manner in which this material can best be handled will be clarified, and the solution of problems of detail will be made easier.

Housing Requirements

The question will arise how far the building code should enter the field of housing. There have been a number of housing codes adopted in the past and there is a revival of interest in this subject at the present time. The question cannot be answered with finality because local conditions have a considerable bearing. In some communities, sympathetic understanding of housing problems and efficient enforcement of housing requirements are likely to be better under a separate set of regulations. Where analysis of the local situation indicates that full comprehension of the problems involved and vigorous and intelligent enforcement of the requirements may be expected, logic indicates that structural, fire resistance, exit, and other requirements for new construction need not be separated from the main code.

There is a strong case, however, for a separate code or at least a separate chapter on the subject of maintenance, which will assure protection with respect to sanitation, accidents, and other subjects not customarily covered in building codes. There is a case also for those requirements termed "improvements" in housing codes which are concerned with bringing substandard structures up to a reasonable level even though they may have fully complied with the law at the time of erection. If the local building code committee does not feel in a position to deal with mat-

ters in this more or less specialized field, contact may well be established with local people having an interest in housing, and arrangements may be made for developing adequate requirements that can be published and administered independently of the general building requirements.

Guiding Principles

Although it is not possible to deal with code problems in detail in a discussion of this length, it is hoped that enough emphasis has been placed on the wisdom of investigating fundamentals before the actual work of code production is undertaken. Too often, there is a tendency to rush into consideration of details before principles and policies are well worked out. Modernization of building codes is desirable and possible, but it is dependent upon avoiding past mistakes and establishing a system that is sufficiently flexible to meet changing conditions. The most feasible way to do this seems to be to establish guiding principles and standards in the code along with specific requirements for the most familiar materials and constructions. Then, as time goes on and new situations arise, many of these can be handled by the building official or a board acting within the framework of their authority and on a technical basis instead of depending on frequent legislative amendments or simply letting the whole matter lapse until that day arrives when requirements again become intolerable and a new cycle of modernization becomes necessary.

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Cities Can Apply New Federal Plumbing Standards

WIDESPREAD municipal application of the new federal emergency plumbing standards designed to conserve war-needed materials is possible under various state and local legal powers, a report by the American Municipal Association shows.

While at present the new plumbing standards apply only to housing constructed by agencies of the Federal Government, the Association says they soon may apply to all building construction granted priorities. This will necessitate repeal or suspension of many of the 1,600 local plumbing codes now in force because on the whole standards specified in them are too high to allow substitutions.

Cities in a majority of the states, the report says, can enact a local plumbing ordinance under general authority, so the only move necessary would be council action amending an existing ordinance or adopting a new ordinance incorporating the emergency standards.

In about a dozen states, cities will be able to adopt the standards speedily and without undue expense under the "by reference" procedure. With this procedure the council is empowered to enact a brief ordinance stating that the emergency plumbing standards for defense housing are to become a part of the local statutes. This eliminates publication of a lengthy plumbing code.

Some cities, also, may enact plumbing ordinances covering matters such as licensing, permits, inspections and testing, and establishing the federal plumbing standards as a "guide" for the inspectors.

Another possibility is for state boards of health, sanitary boards, or other agencies to adopt the plumbing standards, which then would apply locally where the governing statutes permit. Authorization of this kind empowering a state board to issue rules and regulations is found in Minnesota, Wisconsin, and other states.

State legislative action adopting the emergency standards in detail would be the simplest method, the report points out, but detailed state-wide standards are sometimes difficult to apply to cities of all sizes; in addition, only eight legislatures meet in regular session this year.

The "emergency plumbing standards" were drawn up and issued by the Defense Housing Division from a manual approved earlier by the National Bureau of Standards and the U. S. Public Health Service. The standards set a maximum as well as a minimum quantity of metal to be used in plumbing installations—the usual plumbing code fixes only a minimum. In some localities, savings averaging nearly 50 per cent in the weight of "roughing in" materials—pipes, vents, etc.—now required will be possible under the emergency standards, the report says.

* See also "Revising the Local Building Code," by George N. Thompson, on page 59.

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Standards for Wartime Housing Projects

THE National Committee on the Housing Emergency, at a meeting of its Executive Committee on February 18, 1942, adopted the following statement on new public housing projects for war workers under recent national legislation:

1. It is extremely gratifying to know that the first orders for demountable houses and Lanham Act projects call for houses which amply meet the minimum standards of space, arrangement, equipment, etc.; and that they are structurally strong and sturdy. It is of the utmost importance that this policy be continued with no breaking down of these standards.

2. On the matter of site planning, it has been established by the work of the professional site planners that in most cases the super-block, cul-de-sac type of site plan is more economical, more livable, and safer for children and adults than the ordinary subdivision type of site plan with all houses on traffic roads. It is further established that the super-block, cul-de-sac type of site plan can be adapted to the requirement that projects or houses in them shall be sold. This can be accomplished by so arranging the site plans that any service drives required to make the projects suitable for sale can be installed at that time. Accordingly, this principle should be properly recognized and followed in the site plans for demountable projects and Lanham Act projects, since this will make the projects less expensive and better for their war housing purpose and will still make them adapted to sale or rent after the emergency has passed.

3. It is also essential that the plans for such projects contemplate adequate community and shopping facilities. This is considered indispensable in achieving the purpose of these projects; and it is recommended and urged that the development of the community and shopping facilities be not postponed, but be carried along concurrently with the other phases of project development.

City Hall, the Citizen, and Defense

III. What About Training?—How Mobilize Competent Volunteers?

By PHILLIPS BRADLEY

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ONE of the first jobs in the long pull in every Civilian Defense Volunteer Office is getting the essential training courses properly organized—and appraised. It will be of little use, when emergency calls come in over the wires, to have a surplus of poorly trained volunteers. There is no need to step up enrolment unless volunteers can be assigned to the kind of training for which they are fitted. After the first flush of enthusiasm is over, it will become a major task to channel the supply of trained people to carry on—or out—the many activities which effective civilian defense requires. What are some of the ways of making a training program function efficiently in the local Civilian Defense Volunteer Office?

An Inventory of Training Needs

About half the total civilian defense personnel is needed for the public services—fire, police, sanitation — which have so far organized their own training programs. The main job of the local CDVO is to feed into these services persons best suited to their requirements. In order to streamline the civilian defense services as a whole we shall need to select personnel more carefully for the public services' training courses. There will be a need, also, for the CDVO to maintain a close liaison between them to insure a continuing supply of volunteers to man these services.

Besides this group, there is a growing need for an almost equal number of personnel for the rescue and welfare civilian defense services. What can be done to utilize the civic loyalty of those volunteers not likely to go into the more active public services and to equip them to handle the essential jobs? What is the relation of the CDVO to the many unofficial training programs organized by various civic groups? How can civilian enthusiasm be most efficiently harnessed to defense requirements?

The first business of the CDVO is to inventory actual community needs for the rescue and welfare services. The central and branch offices can obtain a reasonably accurate index of some of these needs from several unofficial agencies such as the Red Cross and the local medical society, and from the public health authorities. These groups will be immediately concerned with mobilizing the rescue resources of the community and can gauge their requirements for volunteer aides well ahead of time. From them the CDVO can determine qualifications and can enlist their aid in establishing necessary training courses. The hospitals and community service societies can be of similar help in closely related fields of medical aid and family care in an emergency. Whatever other local needs are indicated from surveys by public and private agencies can be indexed for necessary training courses. Once an inventory is established, the training function of the Civilian Defense Volunteer Office is on the way to more efficient management.

Training a Training Staff

The next job in the training program is to insure an adequate supply of competent instructors to handle whatever load the enrolment section of the CDVO places on the training section. Here, again, the fire, police, and sanitation services, are generally equipped to handle their own training needs. Only occasionally is the CDVO likely to be called on to supply trained instructors in these fields. The same is also generally true of the other municipal departments (for instance, health) and of the medical, hospital, and community welfare agencies. Sometimes, however, in these fields there will be a need to train instructors in the details of the various rescue and after-care techniques which a blitz imposes on civilian defense. If these agencies do not have sufficient staff available for training, the CDVO's first function is to recruit persons who have already the necessary background to carry on the essential training courses. If such personnel is not available in the community, the CDVO should cooperate in setting up training courses to train the staff required by the local agencies. The primary job of the CDVO lies in the area of insuring adequate training for those who desire it. Direct training through the CDVO should become an incidental not a main activity—to fill gaps until other agencies can organize their own training programs.

Appraising Unofficial Training Programs

One other training job is becoming more and more important in local CDVO's, especially in the larger cities. The original enthusiasm to serve in civilian defense created a wide variety of well-meant but often amateur training courses in many civic and social groups. Many of these courses were started with more energy than information. In some cases at least, there was little real competence behind the instruction. Not infrequently, the training offered fitted none of the essential civilian defense needs. Many CDVO's found themselves confronted with the unhappy dilemma of refusing recognition of these courses or facing the disgruntlement of the groups which offered them.

The most effective way to meet this situation is to establish a regular procedure for the certification of courses in civilian defense. A Training Committee should be appointed in the central CDVO to review and appraise courses offered by every agency except the public services. On the committee there should be persons recognized for their knowledge or special skills in the various civilian defense fields. They should be chosen so far as possible from groups not represented or engaged in the actual training process. Where this is impossible because of the specialized techniques involved, an individual member of the committee—or an outsider—not a member of the group offering a particular course, should be asked to pass on its merits. Only in this way can many disappointments and even conflicts of jurisdiction be avoided in the CDVO. Many disputes have already arisen over the standards to be required in different training courses. The surest way to prevent them is for the CDVO to retain complete authority in approving courses in every field of civilian defense. Enrollees should be informed specially as to whether a particular course has been approved. No enrollee should be referred to an unapproved course through the Civilian Defense Volunteer Office.

—For previous articles in this series, see the January issue, page 50, and the February issue, page 37.

21% More Fire Insurance at 23% Less Cost

By George J. Roark
Pensacola, Fla., City Manager

THE city of Pensacola, Fla., recently had its annual insurance inspection by specialists of The Home Insurance Company. The original survey and report, adopted November 30, 1937, gave the city a 21 per cent increased amount of coverage with a 23 per cent decrease in premium cost.

This pioneer study found that the municipally owned buildings were covered to the value of $175,000. The new plan covered $211,000 at 23 per cent less cost, through rearranging the form of policy to the concurrent, five-year, staggered plan of annual payment, and by reclassification of certain properties. The plan made no request for the physical improvement of any of the properties. Every piece of property was separately inspected and correctly classified for the minimum rate. What this means in terms of insurance coverage and premium revisions is indicated by the following typical changes in ten out of a total of 32 properties:

	Estimated Value*	Insurance		5-Year Cost	
		Old	New	Old	New
City hall	$60,000	$50,000	$50,000	$1,700	$1,360
Jail and police station	25,500	15,000	25,000	697	300
Pumping station	20,000	7,500	16,000	52	84
Central fire station	10,000	3,000	7,500	138	140
Pavilion, wharf	7,500	5,000	5,000	795	522
Pavilion	10,000	7,500	7,500	1,068	855
Grand stand	15,000	12,500	12,500	1,625	1,300
Wharf	20,000	12,000	13,000	1,592	1,274
Wharf	8,000	8,000	8,000	980	784
Club on dock	5,000	7,000	4,000	703	321

The first column gives the recoverable value of each structure.* The next two columns show the existing insurance and the proposed insurance in relation to the recoverable value. The last two columns show the amount of premium that was being paid and the amount paid on the new insurance at the correct rates in each case. In most instances, the coverage was increased; in several instances, it was decreased because of depreciation of the structures.

It is important in placing insurance to have each risk accurately surveyed so that the correct rate is applied. This was done in Pensacola with the constructive results indicated in the table. The average rate was thus reduced from 1.332 to 1.0756, and certain of the rate reductions were made retroactive so that refunds amounting to $271 were obtained on existing policies.

The new fire insurance total of $211,000 was divided into five equal parts expiring in a stagger plan, one-fifth each year, for a period of five years.

The report closed with recommendations for the elimination of certain hazards. The installation of hand fire extinguishers in the city hall would produce a 5-year premium saving of $164. In the city garage, the removal of a flue and the installation of pails, waste cans, and extinguishers would save $126, though building and contents together are valued at only $3,500. Four extinguishers in the Bayview Pavilion would save $23.

Major Hazard Eliminated

One of the most constructive recommendations was in connection with the Sanders Beach Pavilion—a large, open, one-story frame building occupied as a dance hall. The fire insurance inspection of this unit disclosed that the tenant leasing the property had, for his own convenience and without permission or knowledge of the city officials, used highly inflammable material for interior decoration and had limited the means of egress resulting in severe hazards not only to the building, but also to life as well. The situation was immediately corrected by the city management, and it would be difficult to estimate the amount of possible grief this prompt action may have saved the people of Pensacola.

Regular Check-Up

In any collection of properties, conditions of one kind or another change from year to year. New buildings may be purchased or built; buildings remodeled; hazards removed; valuations changed. Usually such matters are not reported to the insurance agents or companies. To maintain the gains made by the thorough-going survey, arrangements were made for an annual insurance check-up by the National Liberty Insurance Co. The present average rate is 0.9064.

* The estimated building valuations were made by the city engineer and city building inspector, assisted by an insurance engineer of the National Liberty Insurance Co. of The Home Fleet of Insurances Companies, brought in by the Tolton Agency, now the Martin-Tolton Agency, Inc., Pensacola, Fla. The insurance report recommended that a professional appraisal be made by appraisal engineers.

More Assessorships Put on Merit Basis

Two Wisconsin cities—New London and Reedsburg—have joined approximately 130 local governments in the United States which hire their assessors on a merit system basis, necessitating proof of ability for the job, the National Association of Assessing Officers states.

The Wisconsin cities are both under 5,000 population. Under their new ordinances all candidates for the position of assessor must be examined by a committee, which will send the mayor the names of the three ranking highest. From this list the mayor will appoint an assessor for an indefinite term, subject to confirmation by the city council.

New London's examining committee will consist of a city councilman and assessors from two other Wisconsin cities. In Reedsburg the committee will be made up of the state supervisor of assessments, an alderman and a member of the county board of supervisors designated by the council.

The Street Trees of Lansing, Michigan

The Story of an Efficient City Forestry Department

By CARL GEORGE FENNER
Assistant City Forester, Board of Park Commissioners, Lansing, Mich.

FROM the moment of the acceptance of the City Tree Ordinance, shade-tree care in Lansing was officially "planted and rooted," and it has flourished under a system of careful planning and conscientious execution. At that time all city forestry practices were in a pioneering stage, but growth and improvement, while necessarily slow, were both scientific and thorough. H. Lee Bancroft was the city's first Park Superintendent and City Forester and has had charge of the program since its inception.

A brief history of the original street tree plantings in Lansing shows forestry problems confronting the newly organized department in 1915.

In the city's infancy the first tree planters chose fine, sturdy oaks, elms and hard maples from the surrounding forests, and carefully and thoroughly planted every rod of the city highways and byways of that day. As in all other Mid-western towns, however, the trees were set too close together for normally symmetrical development.

The second period of tree planting began about 1890, when surrounding forests were receding and the beginning of a period of rapid industrial expansion was bringing economic prosperity and a speed-up tempo of living. Property owners now purchased their trees for the planting of new streets from Eastern tree nursery firms. The varieties chosen were the cheap and unsatisfactory soft maple, poplar, box elder and catalpa, sold under the cry of "quick shade."

During the first part of the present century the people of Lansing were too busy to plant many shade trees of either class mentioned above. Thus when tree care began,

Above—Hackberry Trees, Planted in 1935 on a Lansing Street, Photographed in July, 1941

Below—A Bean Power Sprayer, Drawn by a Chemical Truck, at Work on Lansing Trees

in 1915, about two-thirds of the 200 miles of streets were supplied with 33,000 trees, many of good variety and many of bad variety, all set much too close together for comfort, health and beauty. About one-third of the streets in outlying sections were unplanted. Thousands of the larger trees were crowded, ill-shaped and badly in need of pruning to remove dangerous dead limbs and low-hanging branches that were an obstruction to vision and traffic.

Improving the Inheritance

Taking all elements of the situation into consideration, the Department set itself to the task of caring for and bringing into correct balance the city's shade-tree resources by planning three well-coordinated courses of action.

Obviously, the task of primary importance was to prune all existing trees to remove dead limbs that were a menace to travelers as well as to the trees themselves; also to shape the lower portion of the tree "head" to allow clearer vision for foot and vehicular traffic. This first pruning required about eight years and was successful in bringing most of the trees to a high degree of safety, health and service. At the present time about 75 miles of street trees are pruned each season.

As the pruning work was carried on only during the summer, the winter months were left for the work of the second major activity—the removal of many crowded and undesirable species. Eight thousand trees have been removed to date. In every case the decision to remove a tree was made only after examination of all angles of the case with the abutting property owner, whose permission and full and hearty cooperation have been considered essential.

The third activity, the planting of new trees, while of equal importance with the pruning and removal activities, had a slower start toward a systematic and progressive program. Many years of education and research were necessary before success in this field could be assured. Basic ordinance plans had also to be formulated. In the 1920's about 1,650 trees were set in scattered areas and paid for by the abutting property owners. This

Moline elms ten years after planting

planting activity, while of high quality, demonstrated itself to be far too slow to bring about a proportionate and balanced distribution of the shade-tree resources as a whole. Therefore, in 1930, after several years of surveys and accumulation of young trees in a city-owned nursery, a systematic, city-wide, street-by-street planting program was launched. This is operated on a special departmental budget item, and with the help and cooperation of the Park Department 14,000 trees have been planted since the spring of 1930. Varieties used are sugar, black and Norway maple, elm, pin oak, sycamore, hackberry and sweet gum. At the present time 90 per cent of Lansing's streets are fully planted, and surveys and plans have been completed for planting the remaining 10 per cent by 1945.

Additional Tree Services

As the activities of the Forestry Department grew and became more and more appreciated by the residents of the city, other lines of tree care developed and helped to bring about the present state of satisfactory and efficient operation. Among these additional services are:

Repair.—Annually, many trees having weak crotches are held together and permanently strengthened by bracing with iron bolts, chains and cables. Scores of trees are treated for wounds caused by storms, motor vehicles, and children.

Wire Line Clearing.—Since contact between tree branches and electric wires is harmful to both trees and wires, the tree ordinance requires owners of wires to obviate the necessity for such contact. However, as this is often physically impossible, the problem has been solved by a crew of trained foresters who annually cut branch ends away from wires, which of course must be fastened to the highest poles which it is practicable to get and maintain. The work is done at the expense of the wire-line owners. In this way both trees and wires are protected from harmful abrasion.

Insect and Disease Control.—Trees, like other forms of life, are subject to diverse insect and disease parasites. Under our system of tree inspection and care, every employee is constantly on the alert for the detection of these tree enemies. Control measures for the various pests range from individual surgical treatment to the use of power sprayers for mass extinction of epidemic-form of attacks. The task of parasite control is of increasing importance, and is handled in a scientific and up-to-date manner.

Tree Feeding.—Because of the

unnatural city street environment, many fine trees suffer for lack of food, water and air about the root system. In cases of valuable trees, these life requirements are supplied by injection of a balanced fertilizer into the soil by means of compressed air; also by water injection equipment. Many trees in poor health are thus restored to beauty and usefulness.

Inspection Service.—In addition to the above described work of the Department, approximately 700 tree-inspection calls are made annually in response to requests of property owners. This free service keeps the Department in close contact with the taxpayers and brings mutually beneficial results. The detailed operations of the Department, as well as its underlying policies, are found to be of much interest to the general public; and all information concerning them is cheerfully given. We believe that this is the only wholesome way to conduct city governmental functions.

It is also the American way.

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Saving Private Recreation Areas for Permanent Public Use

SOME years ago, after the famous Hollywood Bowl had definitely established its esthetic and commercial value to the community, it was threatened with abandonment because of the increasing burden of taxes. The situation became a practical consideration as to whether the community would lose a nominal amount in taxes or a larger amount in benefits from the Bowl. It was determined to save the Bowl rather than the taxes, and that decision has proven to be a community gain in every respect. The means by which this was accomplished was through the simple expedient of deeding the property of the Bowl to the county. The county, in turn, executed a lease to the non-profit Bowl Association which has since managed the institution within the limits of policy dictated by the terms of the lease.

This precedent is now being seriously considered for adaptation to the similar problem of saving recreational areas for permanent public use. The very forces of urban expansion that are destroying large private recreational areas are also making it more difficult to locate substitute areas either for private or public use. It is becoming increasingly recognized that it is highly important to conserve whatever areas are still available. To accomplish this it is proposed to capitalize on adversity.

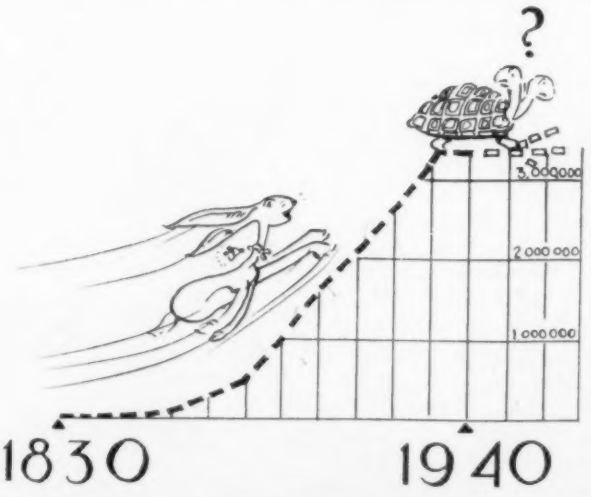
Aid for Financially Embarrassed Country Clubs

Briefly, the plan being proposed in the Los Angeles district is to encourage the owners of financially embarrassed "country clubs" to deed their holdings to either the city or the county for $1.00 and other good and sufficient consideration," the latter to be a term lease to fit each case. But in general the proposal is that such lease or agreement will grant playing privileges to the members of the club such as they enjoyed as members before the days of adversity. This would apply also to other club facilities such as locker services, etc. Thus the former members would "play out" their equity.

It is also proposed that initially certain days of the week would be available exclusively to the former members. The remaining days would be available both to the members and to the general public on the same basis that public courses are now used. Over whatever schedule of time that might be determined upon, the time available for the private use by former members would decrease while time available to the public would progressively increase. In the end the whole establishment would pass through the metamorphosis from private ownership and private use to public ownership and public use. The big consideration is that irreplaceable recreational areas will be preserved at no appreciable cost, if any, to the public and very little loss, if any, to the private interests whose least reward will be the privilege of playing pasture pool until second childhood prompts them to change to tiddedly-winks or playing the harp.

GORDON WHITNALL.
Los Angeles, Calif.

Graphic Chart of Population Trends



From "Population Facts for Planning for Chicago," published February 1942 by the Chicago Plan Commission

Planning the Post-War World

New Freedoms and Higher Living Standards Attainable— Municipal Participation

THAT a nation finds itself in a crisis is not a reason for ceasing to plan the use of its national resources but, quite the contrary, it is the occasion for more energetic use of planning intelligence than ever before, in many fields, industrial, governmental, both military and civilian, technical and scientific. Even the apostles of violence utilize planning techniques for their own purposes, and there is no reason why those who hold sounder ideas of liberty and justice should repudiate planning or look askance at types of planning which will contribute alike to the winning of victory and its highest and best application to conditions of peace.

We look forward to securing, through planning and cooperative action, a greater freedom for the American people. Great changes have come in our century with the industrial revolution, the rapid settlement of the continent, the development of technology, the acceleration of transportation and communication, the growth of modern capitalism, and the rise of the national state with its economic programs. Too few corresponding adjustments have been made in our provisions for human freedom. In spite of all these changes, that great manifesto, the Bill of Rights, has stood unshaken a hundred and fifty years. And now to the old freedoms we must add new freedoms and restate our objectives in modern terms.

Freedom of speech and expression, freedom to worship, freedom from want, and *freedom from fear,* these are the universals of human life.

New Objectives

Any new declaration of personal rights, any translation of freedom into modern terms applicable to the people of the United States here and now must include:

1. *The right to work,* usefully and creatively through the productive years;

2. *The right to fair pay,* adequate to command the necessities and amenities of life in exchange for work, ideas, thrift, and other socially valuable services;

3. *The right to adequate food, clothing, shelter, and medical care;*

4. *The right to security,* with freedom from fear of old age, want, dependency, sickness, unemployment, and accident;

5. *The right to live in a system of free enterprise,* free from compulsory labor, irresponsible private power, arbitrary public authority, and unregulated monopolies;

6. *The right to come and go, to speak or to be silent,* free from the spyings of secret political police;

7. *The right to equality before the law,* with equal access to justice in fact;

8. *The right to education,* for work, for citizenship, and for personal growth and happiness; and

9. *The right to rest,* recreation, and adventure; the opportunity to enjoy life and take part in an advancing civilization.

These rights and opportunities we in the United States want for ourselves and for our children now and when this war is over. They go beyond the political forms and freedoms for which our ancestors fought and which they handed on to us, because we live in a new world in which the central problems arise from new pressures of power, production, and population, which our forefathers did not face.

This article comprises excerpts from a report of the NATIONAL RESOURCES PLANNING BOARD transmitted by President Roosevelt to Congress on January 14, 1942

Post-War Prosperity—If We Plan for It

The full employment and prosperity which is coming with the defense effort proves that we can have a full employment system and balance the production - consumption budget at a high level if we are determined to have it so, because we do have the necessary manpower, resources, productive plant, and organizing ability.

Everywhere one hears it said that, when this war is over, all countries, including our own, will be impoverished. This view is, however, not sustained by past experience. No country need be impoverished if its productive resources (both capital and human) are intact. The productive resources of this country will be on a considerably higher plane when this war is over than ever before. A larger proportion of our population will be trained to perform skilled and semi-skilled jobs. We shall have enormous productive capacities in all the machine industries. And in special consumers' durable industries, where plant and equipment may have become deficient by reason of the war, we shall be able, with our large basic machine-producing industries, to expand very quickly to meet the peacetime requirements. We shall have, when the war is over, the technical equipment, the trained and efficient labor, and the natural resources required to produce a substantially higher real income for civilian needs than any ever achieved before in our history. Whether or not we shall, in fact, achieve that level of income will depend upon our intelligence and capacity for cooperative action. . . .

In this program Government must take a leading part because it is the only representative of us all, the common meeting ground of all

interests, and the one center of responsible coordinating power through which we can all act together.

We do not want the Government to run the whole show. We do not want a totalitarian state. We want freedom of enterprise. We want freedom for collective bargaining between employers and employees. We went freedom for cooperative action. We want freedom of choice of occupation.

If purchasing power is maintained at a high level, we need have no fears that private manufacturers, retailers, wholesalers, and farmers will not come forward and supply the market with the goods demanded by the public—a rich variety of goods at reasonable prices. Private business can and will do the job of production, but it is the responsibility of Government to insure a sustained demand. The ever-increasing gigantic power of production of the modern industrial system, far exceeding that of any earlier experience in history, means that an enormous output has to be reached before full employment is approached. Private industry and Government together must act to maintain and increase output and income sufficiently to provide reasonably full employment. . . .

Municipal and State Participation Needed

The opportunity in the post-defense period to build a better America is an opportunity for every part of the country as well as for the nation as a whole. It calls for plans and action programs not only on the national level, but also by regions, states, communities, private citizens, local enterprises, and professional groups. Each area can look ahead to participation in the national post-defense effort; new housing, power and rural electrification, expanded highways, railroad and airport facilities, reclamation and conservation projects, new industries, adequate educational, health, welfare, nutritional, recreational, and cultural facilities and services. What post-war developments each area can undertake will depend on its needs and the ingenuity and foresight with which it places the use of its resources to provide for them.

For many years the state planning boards and numerous city and county planning agencies have inventoried the resources of their areas and studied the problems involved in their more effective use to increase living standards and provide full employment. A vast amount of research has also been done for specific areas by other governmental agencies — federal, state and local. Plans and action programs have been prepared by all these agencies. Correlation of available information and plans for the development of each part of the country with due regard to resources and manpower will produce a substantial backlog of post-war plans for upbuilding the nation.

The field offices of the National Resources Planning Board have prepared preliminary plans for regional development in the post-war period. Summaries of these plans are contained in the report "Regional Development Plans—1941." The detailed plans are available on application to the appropriate regional offices. . . .

It is vital to democracy that planning for the development of local areas be done by the citizens of those areas and their governmental agencies. Only in this way can the upbuilding of America be successfully carried forward. Each city and county can best contribute to post-war reconstruction by starting now with the preparation of plans for the material development and service activities which are needed to make it a prosperous community.

The National Resources Planning Board therefore urges the appointment of official planning agencies or groups, where these do not exist, to undertake this task. Through regional and state planning agencies, and through the field offices of the Board, assistance can be had in relating local planning activities to state, regional, and national programs. Special advice can be obtained from various federal and state agencies concerned with technical problems. It is hoped that each local area will prepare plans for post-war developments including: (1) reconstruction of blighted areas and new housing, (2) highways, airports, rail and bus terminal facilities, (3) industrial development, (4) conservation and improved use of land, and (5) health, educational and recreational facilities and services. . . .

The International Scene

From this point on, the American people will never again make the mistake of believing that we can have prosperity while the rest of the world collapses; or peace while the rest of the world is at war; or freedom while the rest of the world is being enslaved. It is therefore assumed that after the war we shall make our international policy and the international behavior of American private interests conform to our desires for peace and the elevation of human dignity everywhere.

Our foreign policy will have an important bearing upon our domestic employment program when peace returns. Through an extension of lend-lease we shall certainly help feed the starving peoples of Europe until they can again get on their feet. This will take all the food, shipping, trucks, and gasoline which we can muster, and will call for plans now for the organization of this unprecedented gift to humanity. There will be no time to lose when Hitler falls. Millions will already be starving.

After Europe's needs for food, clothing, and emergency medical care have been met, the peoples of Europe will be able to rebuild their own civilization. Perhaps then our greatest opportunity to help others economically will be found in Asia and in parts of North and South America, working in cooperation with the peoples and the governments of those lands. In all international dealings, however, we will have to remember that selling can only be maintained in the long run by buying; trade is a two-way street.

In war, Resolution.
In defeat, Defiance.
In victory, Magnanimity.
In peace, Goodwill.

—WINSTON CHURCHILL
(From "My Early Life," published 1930)

National Housing Agency Established

BY Executive Order of February 24, the housing functions of sixteen different agencies of the Federal Government have been consolidated into one National Housing Agency, with a single Administrator (John B. Blandford, Jr.) having full power to carry out this responsibility.

The accompanying chart shows the new set-up. This means that the President's objective of converting and transferring government workers to the war effort is being attained for housing. All government employees doing work relating to war housing will be in one pool under one supervision.

In a release to the press accompanying the Executive Order, it is pointed out that the functions of the Federal Housing Administration will continue to be that of guaranteeing or insuring mortgages placed by banks and lending institutions on homes; that the Federal Home Loan Bank Administration will include all the functions of the Federal Home Loan Bank System and related institutions in connection with financing home ownership and construction; and that the Federal Public Housing Authority will be an amalgamation of all the various agencies and personnel engaged in constructing housing with public money.

The statement adds:

"In the new agency will be concentrated also the function of research in housing construction materials and methods; and also that of general urban development planning in so far as housing and related facilities are concerned.

"These three main units under the direction of the National Housing Administrator will represent the carry-over of experienced staffs already organized and prepared to act at once.

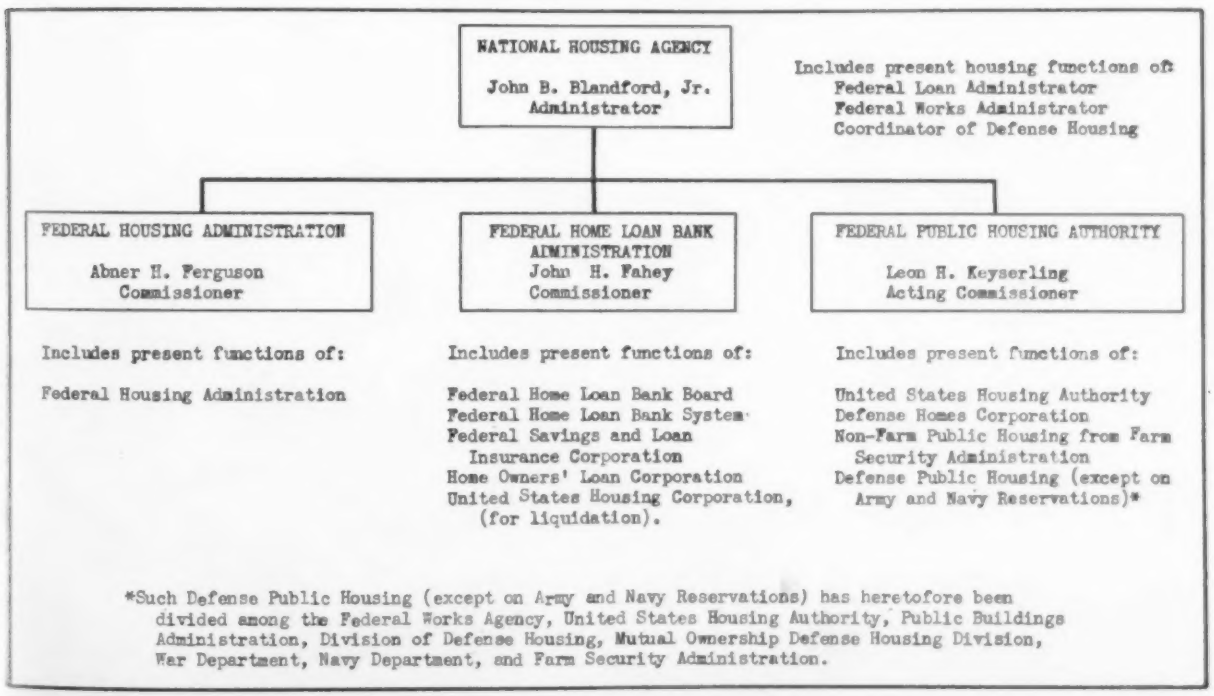
"This Order should cause not a day's delay. Almost immediately, it is expected to speed up the production of war housing tremendously."

Pointing out that the Division of Defense Housing Coordination, established last year to meet the need caused by the diversity of housing agencies, now disappears from the housing picture, the White House statement said:

"The Coordinator and his staff deserve commendation for the excellent and patriotic service which has been rendered by them under the difficult procedure and the scattered responsibility which has been in effect heretofore. Such members of the staff as are necessary for the functioning of the National Housing Agency will be transferred to the new Agency. Mr. Charles F. Palmer will himself probably go to England at the President's request to study certain housing methods there as a representative of the National Housing Agency, including post-war housing planning.

"The Order simplifies and improves administration. It does not change purposes. Government aid to housing has already been limited almost entirely to building housing for war workers—because this is all that the limitations of men, money, and materials will permit now. The Congress has defined the purposes for which appropriated monies may be spent, and in some cases has defined the disposition to be made of projects after the war is over. None of this is changed by the Order."

John B. Blandford, Jr., appointed Administrator of the National Housing Agency, was born in New York in 1897. In the World War he was in the naval aviation service. He was graduated from the Stevens Institute of Technology in 1919. He became an engineer with the Texas Company and then joined the staff of the National Institute of Public Administration. He was assistant to the city manager of Petersburg, Va., and director of research for the Chamber of Commerce in Newark, N. J., and later went to Cincinnati, becoming Director of Public Safety. He joined the Tennessee Valley Authority in 1933 and was its general manager 1937-39. Then he became assistant director of the Bureau of the Budget, which position he has resigned to accept his important new appointment.

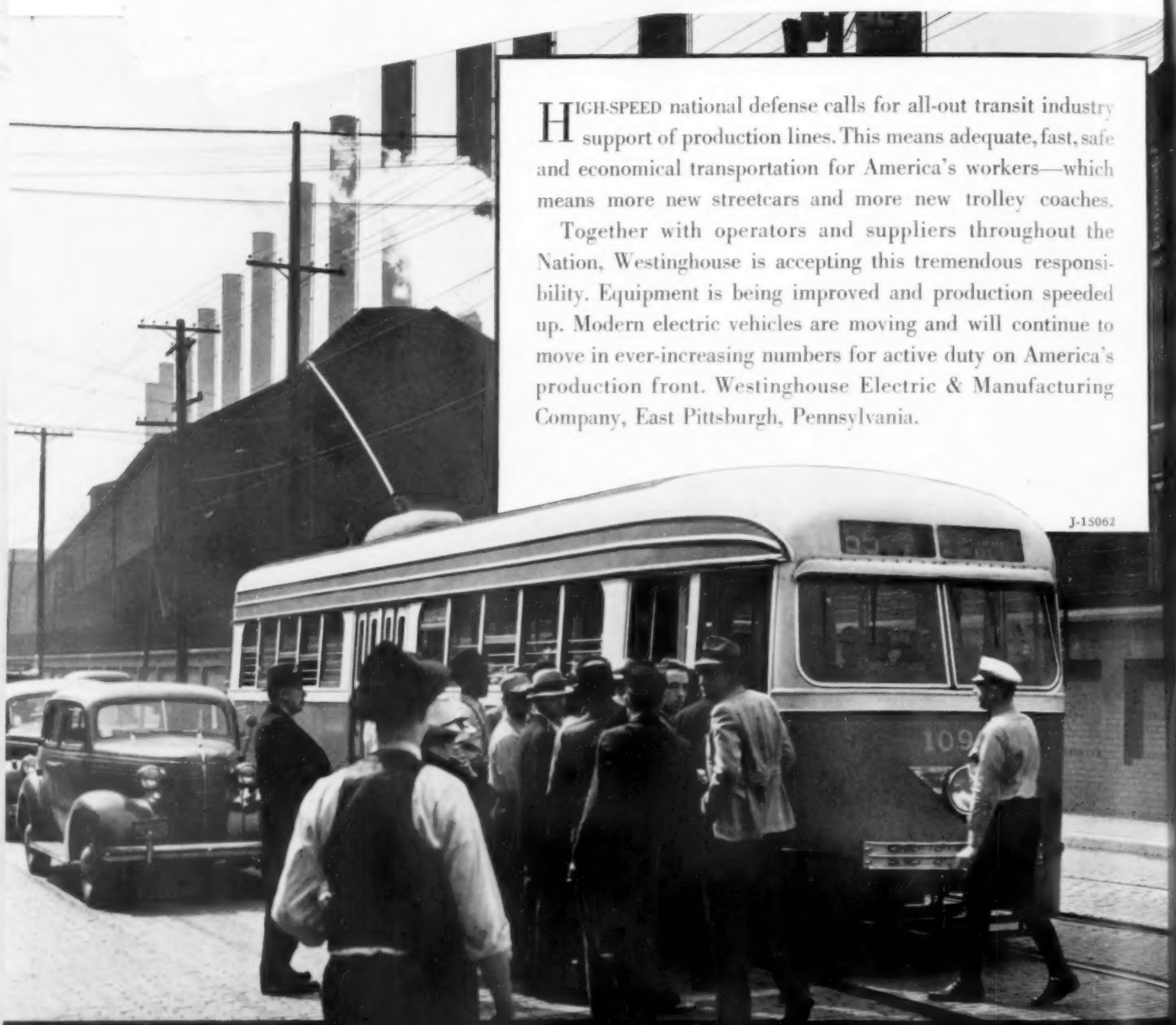

NATIONAL HOUSING AGENCY
John B. Blandford, Jr.
Administrator
Includes present housing functions of:
Federal Loan Administrator
Federal Works Administrator
Coordinator of Defense Housing
FEDERAL HOUSING ADMINISTRATION
Abner H. Ferguson
Commissioner
FEDERAL HOME LOAN BANK ADMINISTRATION
John H. Fahey
Commissioner
FEDERAL PUBLIC HOUSING AUTHORITY
Leon H. Keyserling
Acting Commissioner
Includes present functions of:
Federal Housing Administration
Includes present functions of:
Federal Home Loan Bank Board
Federal Home Loan Bank System
Federal Savings and Loan Insurance Corporation
Home Owners' Loan Corporation
United States Housing Corporation, (for liquidation).
Includes present functions of:
United States Housing Authority
Defense Homes Corporation
Non-Farm Public Housing from Farm Security Administration
Defense Public Housing (except on Army and Navy Reservations)*
*Such Defense Public Housing (except on Army and Navy Reservations) has heretofore been divided among the Federal Works Agency, United States Housing Authority, Public Buildings Administration, Division of Defense Housing, Mutual Ownership Defense Housing Division, War Department, Navy Department, and Farm Security Administration.

All Aboard America!

HIGH-SPEED national defense calls for all-out transit industry support of production lines. This means adequate, fast, safe and economical transportation for America's workers—which means more new streetcars and more new trolley coaches.

Together with operators and suppliers throughout the Nation, Westinghouse is accepting this tremendous responsibility. Equipment is being improved and production speeded up. Modern electric vehicles are moving and will continue to move in ever-increasing numbers for active duty on America's production front. Westinghouse Electric & Manufacturing Company, East Pittsburgh, Pennsylvania.

J-15062



Westinghouse

ELECTRICAL PARTNER OF INDUSTRY

Rejuvenated Streetcar Lines in Pittsburgh

By W. J. CLARDY
Transportation Application Engineer,
Westinghouse Electric & Mfg. Co.
East Pittsburgh, Pa.

THE problem created by the decline in transit revenues during the depression led the Pittsburgh Railways Company to initiate a long-range service betterment program. The most important phase of the plan was the use of modern streetcars, as developed by the Presidents' Conference Committee, to replace the earlier types of rolling stock on the property. With 301 of these P.C.C. cars in service and 100 additional units scheduled for early delivery, sufficient data are available to show exceptionally favorable operating results. Actual experience in service demonstrates that car maintenance comes down 28 per cent, track and roadway maintenance drops 21 per cent, accidents decrease 25 per cent, the number of cars required for specific schedules is reduced 10 per cent, and revenues increase 8 per cent. This favorable outcome has caused continued expansion in the use of such equipment and established a superior urban transit service.

These modern cars have many advantages which are assisting in meeting transit problems in Pittsburgh. Some of the more important are:

1. A saving of 6 to 15 minutes of every hour's travel time in comparison with old cars
2. A high degree of agility attained, with comfort to riders, by providing deep cushioned, forward-facing seats, wide, clear view windows, adequate ventilation, uniform distribution of heat, and plentiful indirect illumination
3. Smoothness of performance given by the control and braking equipment
4. Higher schedule speeds on congested city streets permitting the use of 10 to 20 per cent fewer cars
5. Fast schedules and fewer cars, minimizing traffic congestion

P.C.C. cars have reduced accidents because of their many safety features and quick stopping ability. Analyses of four comparative 12-month periods show decreases in accidents of 24, 25, 25, and 26 per cent by comparison with the earlier types of cars with which the accident rate was 2.74 per 10,000 miles.

The author and R. F. Moon, Philadelphia manager transportation sales, and G. F. Smith and C. Kerr of Westinghouse transportation engineering

The increase in schedule speed is highly important and contributes more to attracting passengers than any other feature. The comfort of the vehicles also is of consequence from the "satisfied customer" viewpoint.

The P.C.C. car is an outstanding city-transit vehicle with exceptional utility as well as excellence.

Why P.C.C. and Streamliner Type Streetcars have won public acceptance

Modern streetcars meet the requirements for speedy, safe and comfortable railway transit service operating under present traffic conditions. In the accompanying table is a list of 16 cities where 2,078 cars of the PCC and Streamliner type have been operating for periods up to 5 years. The service afforded has invariably won the approval of the riding public. Some of the reasons back of this approval are:

• • •

Ample Power

Modern streetcars are equipped with 4—55 hp, 300-volt, high speed series railway motors. Recent studies indicate that on all streetcars built since 1935 there is an average of 12.8 horsepower per ton of empty car weight. This represents an increase of 35% over the horsepower per ton applied on city streetcars built previously and explains the agility of the modern cars in traffic.

Greater Speed

Modern streetcars have a free-running speed of 42 miles per hour with 550-volt power on straight level track, and a maximum speed of 50 miles per hour. This is the highest speed ever attained and enables streetcars to meet modern traffic conditions.

Faster Acceleration

PCC and Streamliner type cars are equipped with multi-notch accelerator control. This permits variable rates of acceleration from 1.5 up to a maximum of 4.75 mphps without discomfort to passengers and provides the highest rate ever applied to a streetcar.

Improved Braking

Service deceleration rates up to a maximum of 4.75 mphps are made possible by multi-notch dynamic braking control, which uses the main motors for braking action supplemented by a magnetic track brake and an air brake. This insures control of the moving car in emergencies.

Weight Efficiency

A study of over 2,000 modern streetcars developed the fact that the average car weight per seated passenger is 620 lbs. This proves excellent weight efficiency, particularly as no sacrifices were made in design or function to attain it.

Improved Schedules

Service with the modern streetcars is speedier. Headways may be cut due to the faster movement of present cars as compared with older equipment. After all, passengers are only interested in getting to their destination with minimum loss of time.

WESTINGHOUSE EQUIPPED CARS

Riding Quality

Extensive experiments and tests by Research Engineers reveal vastly improved riding quality of modern streetcars with regard to transverse, vertical and longitudinal vibrations.

Starting Performance Smoothness

An important contribution to riding comfort is the smoothness and fast starting ability of the modern car which has been made possible by the multi-notch control mechanism.

Improved Lighting

Modern cars are provided with rows of specially designed lights and fixtures which furnish shadowless illumination over every seat.

Seating Comfort

Streamline seats with relaxed position backs and deep cushions provide extra riding comfort in modern cars. Wide aisles, shaped hand stanchions and ample foot room for every seat are now standard convenience and comfort features.

Ventilation

The modern car is winter heated with clean electric heat, thermostatically controlled to maintain a comfortable car temperature. An electrically driven blower propelling 1200 cu. ft. of air per minute assures frequent changes of air.

Increased Receipts

A recent survey indicates that 10% is a conservative estimate of the average expected increase in gross receipts of a line after replacing old equipment with modern PCC or Streamliner type streetcars. This estimate is based upon actual data reported from 12 transit operations.

Greater Safety

Records show a substantial reduction in the number of accidents following the installation of modern streetcars on a transit line. Improved, triple-acting braking, lower steps, quick-acting safety-type doors, wider aisles and convenient hand-grips and stanchions add to passenger safety. Equally important are the twin rear stop lights as a means of preventing rear-end collisions.

Lower Maintenance Expense

With the combined advantages of modern cars, lower maintenance cost can be expected when PCC and Streamliner type cars are installed.

Quiet Operation

Disturbing traffic noise is both a menace to personal health and detrimental to real property values. The PCC and Streamliner type car construction makes ample use of live rubber to deaden and dampen noise. Rubber is also used in the trucks to prevent noise from reaching the car body and to eliminate many of the objections raised by residents living along car lines.

Satisfied Employes

Because it is far easier to operate and to control, employes hail the modern car with complete satisfaction. Their job is made easier by more automatic features and they appreciate the attention given to crew comfort. In addition, efficient service and equipment, which is so warmly received by the public, is reflected in the attitude of company employes.

Successful Operations of Modern Streetcars

On the following pages will be found illustrations and data on 16 successful operations of Westinghouse equipped PCC and Streamliner type cars in city service.

FOR BETTER TRANSPORTATION SERVICE

Two pages from a new 36-page booklet describing modern streetcars in 16 cities

Pave and Patch with Speed!

Up to 40 tons bituminous mix per hr.

Asphaltic paving materials that meet all specs.

From pit-to-pit or job to job at truck speed.

Set up ready-to-go in 15 min.

Light, compact—yet rugged.

Users report fast production of quality SC-3, MC-2 and RC-4 mixes.

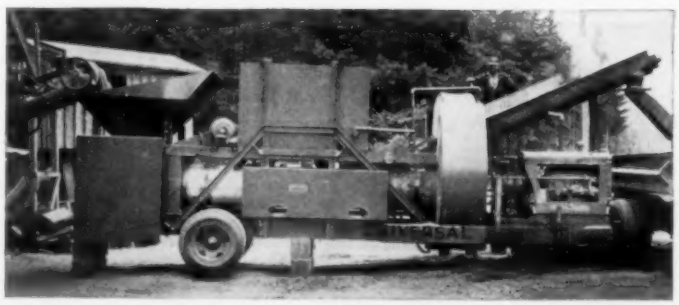
A UNIVERSAL "*TWIN DRYER*" PORTABLE ASPHALT MIXING PLANT

is "Keeping 'Em Rolling" around Helena, Montana. Secondary roads and streets are being surfaced with 2½" of dense-graded plant mixed bituminous macadam by Lewis and Clark County. Specifications call for 60 to 70% fines, to produce denser mixes, and SC-3 oil.

For speed and economy on small contracts, maintenance and patching jobs put a "Twin Dryer" to work—"hypes" up distribution, so vital to Defense!

UNIVERSAL CRUSHER COMPANY
642 C Avenue West Cedar Rapids, Iowa

Speed up construction of airport runways and aprons, black and white top and oil mix roads, camp walks and drill grounds with Spreaderollers. See proof of its performance in Bulletin 800-A.



"Twin Dryer" at right is producing asphalt mix for maintenance of roads and streets around Seattle, Wash. Send for Bulletin No. 57.

UNIVERSAL

CRUSHERS, PULVERIZERS, COMPLETE PLANTS, SPREADEROLLERS, PORTABLE ASPHALT PLANTS

Wartime Policies for Municipal Finance

AS an aid to local governments wishing to adopt financial policies for maximum wartime efficiency, the Municipal Finance Officers Association of the United States and Canada has issued a statement on "Wartime Policies for Municipal Finance."

While emphasizing the necessity for complete harmony in the fiscal plans of our federal, state, and local governments, the statement says that this "does not mean that states and local government should step aside and do nothing. On the contrary, the interests of the national government will be served best if each state and each local government will carry on those tasks which traditionally belong to it."

Policies recommended are listed under three headings: "Policy Matters," "Matters for Administrators and Legislators," and "Matters Primarily for Local Finance Officers." Under the last-mentioned heading are 19 entries, 12 of which follow:

Public records should be well protected. Older and less important records should be discarded to make room for more current and more important data. Obsolete records should not be put in fire-proof storage and current records left unprotected.

All unnecessary accounting forms should be eliminated. Sizes and qualities of paper should be standardized. Various printed forms, many not related to accounting, can be eliminated by central supervision and study.

All city warehouses and yards should be searched for obsolete or worn-out equipment or scrap which can be used to help national defense as well as provide minor local revenues. Cities should consider a municipal salvage bureau.

In making budgets, municipalities should try to anticipate revenue changes caused by tire rationing, lowering state sales and gasoline taxes, and other such activities.

Difficulties will be encountered in retaining a sufficient number of competent accounting and financial employees. Finance officers should bear in mind their legal responsibilities and they should insist on staffs adequate to meet these needs. This is no time for laxity. Keep your staff trained and have a list of available replacements.

Street-lighting contracts in vulnerable areas should contain clauses permitting the adjustment of costs in case of blackouts or disaster.

Every municipality should study its idle but usable equipment and tools. Such equipment should be used, transferred, or sold to another city needing it. Useless equipment or obsolete parts should be sold as scrap at once. Usable but idle equipment may be pooled or transferred through state agencies.

Municipalities must maintain every physical facility in the best possible condition. Since new equipment and new capital improvements may be impossible to obtain, the old must be preserved.

Conserve present motor equipment by unusually careful supervision and where feasible requiring all municipally owned cars to be housed at night in municipal garages. Travel by train or bus instead of automobile can be encouraged.

The current financial position of all municipalities should be kept as sound as possible to meet the shock of the post-war letdown. Budgets must be balanced, deficits eliminated, and short-term loans curtailed.

Now is the time to clean up, by enforcing tax collections severely, all unpaid local taxes that have been accumulating since 1929.

The finance officer should be the leader in public financial matters. To accomplish this he must consult the leaders of business, labor, and finance and work closely with them.

• • • —

Remember Pearl Harbor, Hometown?

WHY didn't Admiral Kimmell and General Short have a plan to meet the Jap attack on *M* day? Thousands of Hometown citizens are still asking this question; asking why Kimmell and Short didn't see that it could happen to Hawaii, why they failed to cooperate, why they refused to heed repeated warnings. Thousands of us are asking these questions—confident that it cannot happen to Hometown.

But can Hometown be caught napping? Can Hometown fail in its job—that of supplying the fleet, the army, and our allies? If we wake up one morning to learn that a new defense industry has been located in this community, will we be ready? Rumor has it that one such industry, slated for Hometown, has been located somewhere else because Hometown could not house the small number of additional workers required. Have we already failed to meet the first call to action?

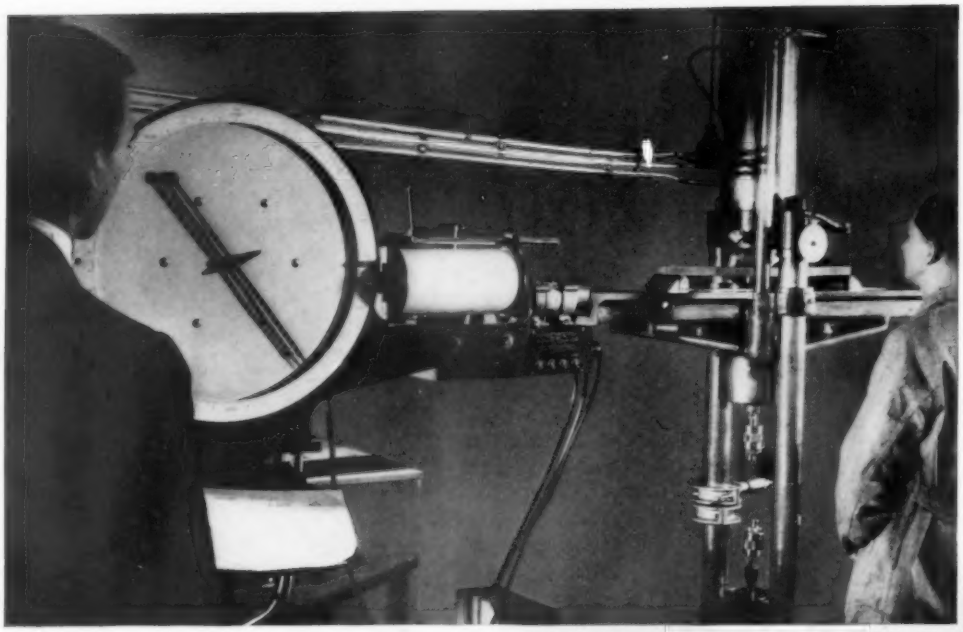
Why doesn't Hometown have a plan to meet the threatened housing shortage which a demand for increased military production will most surely produce? We have had our warnings. The President has designated Hometown as a defense housing area; the Governor has appealed to all cities with defense industries to create local housing authorities.

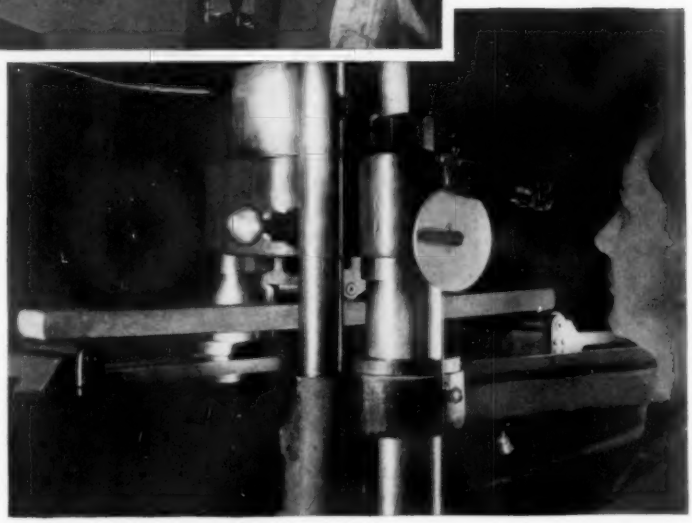
The Citizens' Housing Committee, appointed by the City Manager, reported after a year's study in favor of a Housing Authority. A WPA housing survey, directed by the Bureau of Municipal Research, made an extended field study which revealed the seriousness of the local housing problem—long before the needs for war expansion were taken into account.

The Hometown Planning and Housing Council, composed of social workers, architects, bankers, ministers, and other professional and business men and women, has also recently recommended a Housing Authority. The latest estimate of the number of houses for rent under $50 a month places the total at only 200, a margin inadequate for normal needs, and especially inadequate in face of the constant arrival of 100 defense families a month.

Why have these warnings been disregarded? Who are the Kimmells and the Shorts who are sleeping on this job? Will Washington have to step in and take over this job, or will our City Council act in time to create a local Housing Authority under the state law? Call your Councilman and ask him that question the next time you think of Pearl Harbor.

EDITORIAL NOTE: *The foregoing statement was issued last month by a leading civic organization, to the newspapers in its community. To avoid unfavorable publicity for an industrial city which in many respects is exceptionally high-grade,* THE AMERICAN CITY *has substituted "Hometown" for the city's real name. The lesson, alas, applies to many other municipalities throughout the United States which have not yet fully prepared themselves for vigorous, patriotic wartime service.*





* The "2-inch by 1-inch Test Bar Test," illustrated above, is an acceptance test for cast iron pipe. The breaking load and deflection of the bar, which indicate the physical characteristics of the metal, are determined from this test. It is one of the routine tests made by this Company to insure that the quality of its pipe meets or exceeds the requirements of accepted standard specifications for cast iron pipe. *United States Pipe and Foundry Co., General Offices: Burlington, New Jersey.* Sales Offices in Principal Cities.

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Improving Municipal Administration

Current Items from the Public Administration Clearing House

City Services Expanded through Tax-Reverted Land-Use Plan

The long-range planning program of St. Paul Minn., to expand public services through use of tax-reverted land is providing the city this year with additional playgrounds and recreation fields, city park additions, and sites for a branch public library and a training ground for firemen.

The program was outlined in 1938 by the City Planning Board in cooperation with other municipal departments and was put into effect under a 1941 state law authorizing cities to acquire tax-forfeited land without compensation on condition it be used exclusively for public purposes.

In following the 1938 outline, the American Society of Planning Officials reports, St. Paul under the new state law has taken over 337 parcels of land totaling 64 acres and valued at $120,000. About a third of this land has been put to use as follows:

The Department of Parks, Playgrounds and Public Buildings is building public playgrounds and recreation centers, particularly in districts lacking these facilities, and plans to expand two city parks by utilizing several parcels of tax-reverted land adjacent to the parks.

The Department of Education is using several lots as a site for a branch public library in a district heretofore served inadequately by a portable library and has provided a high school with an athletic field.

The Department of Public Safety is utilizing tax-forfeited property acquired near its administration building for construction of a drill tower to be used to train members of the fire department in the use of ladders, modern fire fighting methods, and rescue work.

The Department of Public Works is using lands it acquired for additional storage space at the department's asphalt plant, where storage facilities were overcrowded.

In drawing up the tax-reverted land-use program, St. Paul's Commissioner of Finance in 1938 prepared a map for the City Planning Board showing locations of such lands. Then the planning board, in cooperation with other departments of the city government, made a list of lands to be withheld from sale because they would be more valuable for public use than private use. The land was withheld from sale and, under the 1941 law, the program was placed in operation.

New Rent Law Aid to Low-Income Families

As a safeguard to many low-income families who might otherwise be forced to move because their landlords see opportunity for higher rents from war-industry workers, the Baltimore City Council has enacted an ordinance making necessary a 120-day instead of a 30-day eviction notice, the National Association of Housing Officials reports.

Applying to dwellings renting for a maximum of $10 a week, the delayed-eviction law, according to the Association, offers an opportunity for the State Defense Council's Fair Rent Commission to examine disputes between landlords and tenants and to avoid eviction or excessive rents by working out some mutually satisfactory agreement.

The 30-day notice to vacate still holds if the tenant is violating an obligation of his tenancy; if the landlord needs the dwelling for himself and family; if he has contracted to sell the property to a buyer who intends to occupy it; or if the dwelling is to be demolished and replaced by a new building. Penalties of $50 fine or 10 days in jail, or both, are provided for violations.

Baltimore is considered as one of the defense communities noted in the rent-ceiling section of the recently enacted federal price control bill, authorizing stabilization of rents when state and local efforts to cope with inflated rents are ineffective.

Protecting Assessment Records against Enemy Action

At a cost of approximately $2,000, San Diego County, Calif., is condensing its property assessment records by photographing them to a size small enough for storage in a bank vault as protection against enemy action, the National Association of Assessing Officers reports.

The records which provide the basis for assessment of all property in the county—lot books, field maps, and plat maps—are being made on negatives which can be enlarged to original dimensions when needed. They will be filed in steel cabinets in a bank vault some distance from the coast.

San Diego County's assessor, Crowell D. Eddy, directed building of the equipment, which consists of three main parts: a platform elevated from the floor, carrying hinged plate-glass covers under which the material to be photographed is placed; a quadripod to hold the camera, built separately over the platform to prevent vibration; and a "stage" independent of the other two structures for the photographer to stand on.

The complete record will include about 17,000 pages of lot books, 8,100 sheets of plat maps, and 8,100 sheets of field book maps. Film 5 by 7 inches is used because it is large enough to insure clear-cut enlargement and is of convenient size for taking four pages to an exposure. Panchromatic film is used to bring out the rulings on the books, which are of three colors, and to pick up red figures and pencil notations.

The picture-taking is done by a commercial photographer with two assistants, aided by personnel from the assessing department. The staging equipment was built by county carpenters at a cost of $50. Other expenses include the cost of 550 packages of film, $100 for chemicals, and $75 for film holders and incidentals.

Detroit Checks "Extra" Skills of Municipal Employes

To furnish an up-to-date record of skills and abilities of all city employes in occupations other than their present ones, the Detroit Civil Service Commission recently circulated an employment questionnaire.

From the resulting record, according to the Civil Service Assembly, the city knows which of its employes are especially qualified for civilian defense activity and which ones can be utilized to substitute in vital municipal jobs when regular personnel may not be available.

See also "Wartime Activities of City Officials" pages 93, 95, 97

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PERMUTIT

WATER CONDITIONING HEADQUARTERS

Defense Procedure Suggested for Municipal Public Works

THE following appeared in the News Letter of the American Public Works Association, as an outline of procedure for public works defense in metropolitan areas. It may well find adaptation for use in all communities, large or small.

1. Subdivide the metropolitan area into zones; set up central repair stations in each to serve as points of mobilization.

2. Organize existing municipal and public utility repair and maintenance crews into emergency units of the following kinds: (a) water main repairs, (b) telephone line repairs, (c) gas main repairs, (d) steam line repairs, (e) sewer repairs, (f) electric line repairs, (g) road repairs, (h) road clearance, (i) light demolition, (j) heavy demolition, (k) decontamination, (l) debris removal, (m) plumbing repairs.

3. Centralize control of all public works emergency activity under one head, normally the head of the public works department, who shall cooperate with the public safety and other emergency departments and who shall route crews and equipment from one zone to another as the need arises.

4. Inventory city controlled public works equipment and supplies, carefully cataloging location, condition, and availability.

5. Inventory privately owned equipment within the city including trucks, pumps, compressors, concrete mixers, cranes, dirt moving equipment, hand tools, hoists, spreaders, plows, acetylene cutting torches, blowers, and the like.

6. Provide for expansion of existing repair forces through the addition of trained technicians and experienced workmen drawn from city departments, public utilities, WPA, and private contractors.

7. Establish a cooperative program to provide for the interchange of supplies and equipment within the metropolitan region, setting up a centralized record system.

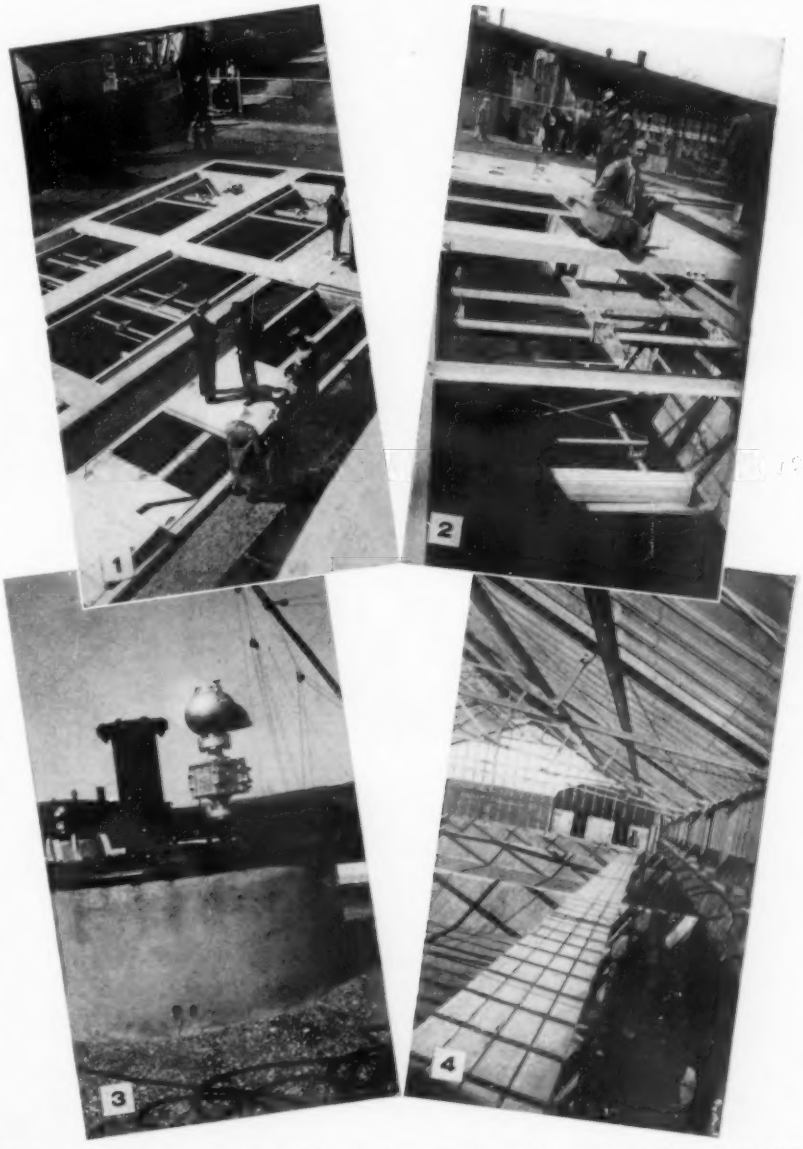
Non-Metal Traffic Signs

Shortage of metals is causing cities which need new traffic signs to search for other materials for "stop" and "slow" signals, reports to the American Public Works Association show.

Richmond, Va., is now using wood for its traffic signs, spray-painting them with a preservative before lettering. Police department workshops in Baltimore are making no-parking signs of a composition material and salvaging all metal signs that can be repaired. The composition material is twice as expensive as sheet metal, and also may be limited in supply, Baltimore officials say.

• • • —

The New Sewage-Treatment Plant at Nyack-on-Hudson, N. Y.



1. General view of the grit chambers in foreground, and the settling tanks as seen from the top of one of the digesters. 2. Close-up of one of the settling tanks with the Dorr Monorake sludge-collecting equipment. 3. Varec gas dome and relief valve on one of the digesters. 4. American-Moniger glass cover for the sludge drying beds

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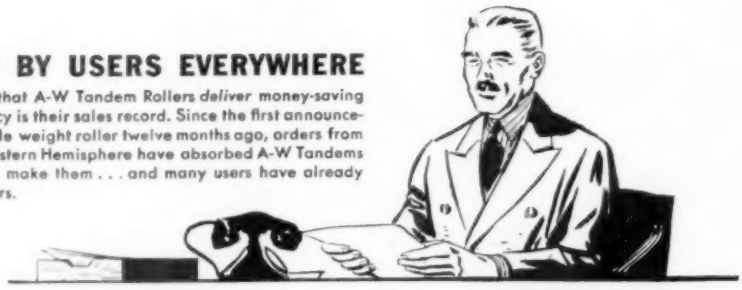

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New Restriction—New Appropriation

Restrictions on Federal Aid to New Local Public Works

NO Federal funds will be allotted for the construction of a permanent building under the Defense Public Works program if a temporary or semi-permanent one will suffice, Acting Federal Works Administrator Baird Snyder III announced on February 23 on behalf of Administrator Philip B. Fleming.

"Public works are now being handled on a full scale war-time basis," said Mr. Snyder. "There will be no more permanent building construction even though the applicant proposes to contribute the full amount of the difference. All frills and doodads are out for the duration. Henceforth, except where a structure is an addition to an existing facility, negotiations will be opened on the basis of simplified standard plans of the Federal Works Agency. Use of steel and other critical materials needed for arms production will be reduced to an absolute minimum."

Mr. Snyder listed the following types of projects directly attributable to war activities as eligible: Schools, hospitals, health centers, detention hospitals, fire department buildings, and certain equipment, except radio equipment, recreation buildings, water and sewer facilities, and maintenance and operation of schools and hospitals where necessary.

Hereafter projects deemed as inadvisable under the Lanham Act public works program are: Airports, grade-crossing eliminations, radio equipment, laboratories for the production of vaccine and serums, blood banks, schools of public health, tuberculosis hospitals, vocational schools, colleges, libraries, and social centers.

Mr. Snyder said that so far as possible funds other than the $300,000,000 appropriated for community facilities under the Lanham Act should be used to provide facilities in order that DPW funds may be spread as far as possible for vital needs.

No project will be submitted to the President for approval unless its war-time necessity has been certified by an appropriate defense agency of the Government.

To February 23, 1942, 999 Defense Public Works construction projects were approved by the President. The total estimated cost of these projects is $170,465,147 of which $124,994,652 is in Federal funds for loans, grants and Federal construction. In addition, 309 DPW projects for the maintenance and operation of necessary community facilities, the majority of which are schools, have been approved. The total estimated cost of these projects is $6,468,388. This sum is a federal contribution requiring no additional funds from the applicants.

$100,000,000 *for Civilian Defense*

The First Deficiency bill of 1942 (H. R. 6548), authorizing appropriations totaling $163,780,819, was signed by the President on February 21. Of this amount $100,000,000 is provided for the Office of Civilian Defense, to remain available until June 30, 1943, and there is $3,000,000 for expenses of administration of that office.

The $100,000,000 is to finance, under such regulations as the President may prescribe, "facilities, supplies, and services" to provide for the protection of persons and property from "bombing attacks, sabotage or other war hazards" in such localities "as may be determined by said Director to be in need of, but unable to provide, such protection."

The new act also stipulates that "It shall be unlawful for any person to wear an insignia, arm band, or other distinctive article prescribed by the Director of Civilian Defense except in accordance with the regulations promulgated under the authority of section 1 hereof: *Provided*, that nothing in this act shall be construed as authorizing the Director of Civilian Defense or any person or employee acting under him by authority of this act, or in pursuance of the regulations prescribed thereunder, to interfere with or usurp any of the rights or duties of any local district, municipal, county, or state official."

The Municipal Bond Market

In each of its February issues *The Bond Buyer* has called attention to the unsettling effect on municipal bond prices of the threat of Congressional elimination of existing tax exemptions. Among recent sales of new issues as reported by *The Bond Buyer* are:

Amount	Borrower and Purpose	Rate (%)	Term (Years)	Basis (%)
$3,800,000	Milwaukee Co., Wis., Corporate Purpose Notes	.60	1-1.25 O.-A.	.589
150,000	Kingston, N. Y., General	1.25	4.50 Avg.	1.25
1,360,000	Erie Co., N. Y., Home Relief	1.40	1-4 Ser.	1.35
434,000	Bridgeport, Conn., Refunding	1.40	5.85 Avg.	1.379
100,000	Mason City, Iowa, School	1.5	7.33 Avg.	1.38
7,200,000	Milwaukee Co., Wis., Relief	1.40	4.33 Avg.	1.384
250,000	Franklin Co., Ohio, Poor Relief Delinquent Tax	1.5	5 Avg.	1.45
650,000	Charlottesville, Va., Refunding	1.60	11.33 Avg.	1.54
100,000	Cook Co., Ill., School	1.75	18.25 Avg.	1.73
1,480,000	Hartford Co., Conn., Metropolitan Dist., Emergency Water Supply	1.75	1-40 Ser.	1.92
187,000	Liberty Tp., Ohio, School	2.25	11.5 Avg.	2.102
750,000	Alexandria, Va., Public Improvement	2.5	19.66 Avg.	2.37
100,000	Albemarle, N. C., Electric Lighting System	2.5	10.33 Avg.	2.638
231,000	Miami Beach, Fla., Refunding	2.75	5-13 O.-A.	2.75
150,000	South Fayette Tp., Pa., Water	2.75	18.85 Avg.	2.74
215,400	Kern Co., Calif., North of River Sanitary District	3	10.75 Avg.	2.97
5,000,000	Port of New York Authority, N. Y., General and Refunding	3.25	35	3.39

Recent City Manager Appointments

A. B. Curry, city manager of Coral Gables, Florida, has received the appointment as city manager of Miami, Florida.

Oren L. King was appointed city manager of Montrose, Colorado, effective February 1. He fills the vacancy created when Harold Vasey resigned to take a position with the U. S. Bureau of the Budget.

E. L. O'Hara, former city engineer of San Gabriel, California, succeeded Frank R. Chilton as city manager of Pittsburg, California, on February 15.

G. N. Shaw, former director of finance, has been appointed city manager of Coral Gables, Florida.

R. U. Swann is now acting as city manager of Columbia, Tennessee. Former manager, Gerald W. Shaw, is now employed with the Public Work Reserve.

Ray Wilson, former commissioner, became city manager of St. Augustine, Florida, on February 1. He succeeds Eugene Masters.

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Executive Director, International City Managers' Association

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Traffic Control and Facilitation

Conducted by Publications Committee, Institute of Traffic Engineers, 60 John St., New York

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Make a War Transport Survey

By MERWYN A. KRAFT

Chairman, Traffic Control and Facilitation Committee
Institute of Traffic Engineers

DEFENSE and war economies have already altered traffic patterns in many communities. However, although total overall traffic undoubtedly will lessen in volume, little if any reductions can be expected on most main traffic arteries, while many avenues of travel into and through production areas are showing, and will continue to show, substantial and very troublesome increases.

Efficient use of streets and street capacities is essential to all-out war production. *The desired efficiency can be attained if traffic improvements can be allocated to the specific streets, routes, and areas where war transport is being concentrated.* This demands a priority system in scheduling engineering installations, maintenance, repairs, and enforcement—a priority system planned from accurate, up-to-date information on traffic movements and the relative needs of all essential vehicular traffic—private passenger vehicles, trucks, and mass transportation.

The first essential then is a "War Transport Survey"—a complete analysis of the primary uses of the transport system, the determination of what routes are being used for each purpose, and the extent of this use. While the breadth of the survey must be comprehensive, only approximate accuracy is warranted because of the need for immediate action on most improvements. Delay in attention to these problems is costly and cannot be afforded. Moreover, in these times, traffic conditions and patterns may shift materially, almost without notice, and thus make careful, long-range action uneconomic.

Making the Survey

Start with a series of base maps. If the maps are translucent overlays, then they can be superimposed over one another. If not, it may be desirable to plot more than one item on a map. On one of these maps, locate all important war production areas. Where a relatively large area exists, the major individual plants or units should be spotted within the area. Distinction in marking should be made among use characteristics such as manufacturing, warehouses, terminal operations, etc. Also, some indication as to relative importance should be set down, together with a classification according to the relative size of the transport problem as measured by number of employees per shift in the several areas.

On other maps, locate military areas with distinctions as to use, i.e. training, supply depots, wharves and docks, etc., and classify according to amount of transport activity; locate all major commercial and business areas; and locate principal residential areas to reflect sources of labor supply, focusing particular attention on any defense housing projects where only defense workers live. Then plot latest available traffic volumes and patterns to permit a study of the relative positions of military, production, business, and residential areas that might be indicative of changes in traffic flow patterns. The final set of transport maps would cover (1) routes established for army transport upon demand; (2) official emergency (police, fire) routes; (3) bus and street railway lines; and (4) state and federal numbered routes, including by-passes and alternates.

Study these maps in relation to one another. Any appreciable shift from known past conditions in production areas or in volume of activity within areas should enable reasonably sound conclusions as to corresponding shifts in traffic flow patterns. Now run spot traffic checks at the points where it is believed critical changes may have taken place and at all other points where congestion is known to exist. Special types of accidents and accident frequency may also be criteria for these spot checks.

These rough traffic checks should include relative volumes and composition of flow, i.e. trucks, passenger cars, transit, the number of passengers per vehicle, and relative speeds, all according to time of day. Along with these checks the field crews should inventory pertinent physical characteristics and noticeable weaknesses at all critical locations. For these crews, considerable volunteer assistance may be obtained from such groups as the auxiliary police, auxiliary firemen, Boy Scouts, and the Junior Chamber of Commerce.

While these spot traffic checks are being made, gather detailed data from industrial plants, offices, business concerns, and military establishments covering (1) the number of persons within each area according to shift times, (2) the transport media now being used and projected, (3) the off-street parking facilities available, and (4) the delivery schedules in effect. As to transport media being used, only brief information is needed from all employed persons. This includes (1) the area of residence, (2) the present mode of transportation, (3) the time in transit, and (4) the hours of employment. For those who drive their own passenger cars, further information should be collected on (1) the vehicle's seating capacity both used and unused, (2) the probable length of tire life, and (3) the method of transport which could be resorted to if the private vehicle became unusable.

From street railway and bus companies, gather information as to schedules and load capacities for the several routes. With these data the relative importance of each route can be established and an indication of potential capacities under probable future load pressures obtained. Similarly, helpful information on truck routings and delivery schedules may be obtainable from fleet operators or through local trucking organizations.

While, normally, studies of origin and destination would be used to tackle the present traffic and routing problems, they are more involved and con-

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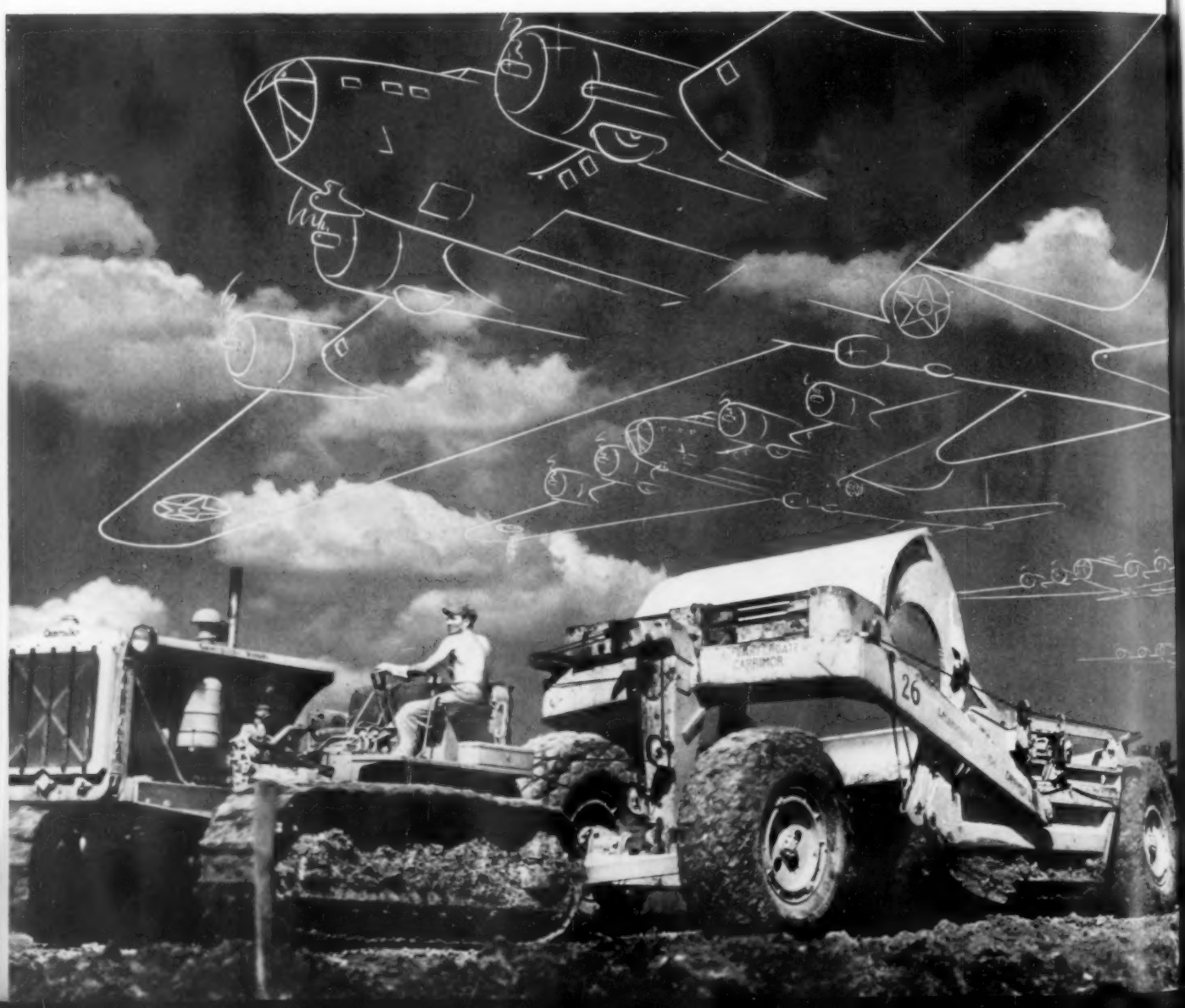


sume more time than is warranted under the present emergency. Although it is possible that neither complete nor entirely accurate information can be gathered from all war production workers, even limited information will help and, when supplemented by numerous rough traffic checks, should give traffic officials a reasonably sound basis for judgment.

A careful review, study, and correlation of data gathered in such surveys will make it possible to weigh the ability of the street and transit systems to handle the immediate transport situation. Where congestion, delays, and accidents exist, either the streets being used lack real capacity or some corrections of one character or another are needed to cure the troubles. When weighing these situations, concentrate solely on traffic movements essential to the war effort.

Using the Survey

Four lines of attack can be followed to advantage after the factual guidance of the survey data is available.

1. Preferential and improved alternate routing of vehicular traffic can be affected to obtain a more efficient distribution of traffic volumes;

2. Corrective engineering, maintenance, repair, legislation, and enforcement can be concentrated on the present war transport routes and on the newly laid out preferential and alternate routes to eliminate traffic bottlenecks that are known to exist;

3. Industrial, business, and school hours can be staggered to relieve peak overloads on the whole transportation system; and

4. More effective utilization of transit, commercial, and private passenger vehicles can be developed.

The "War Transport Survey" is a necessary forerunner of any attempt to handle the traffic and transport difficulties which exist in the present war emergency. Thus, it has been dealt with first in this series of articles on the ITE Plan for Immediate Improvement of War Production Transport. The four lines of attack to follow will be dealt with comprehensively in subsequent issues of THE AMERICAN CITY.

Eastman Says Make Local Transportation Efficient

STREETCAR and bus lines and other local transportation services will be called upon this year to carry the heaviest loads in history, and many cities face acute transportation shortages. Increases in passenger traffic ranging from 20 to 100 per cent over 1941 totals are anticipated in some important war-industry centers and in many cities of less than 100,000 population, where a relatively higher proportion of persons than in larger cities normally travel to and from work in private automobiles.

The total volume of local passenger traffic on public carriers in 1942 is likely to increase at least 20 per cent over 1941 as a result of increased employment, construction of new industrial plants in outlying areas, stoppage of private automobile production, restriction of civilian purchases of tires, and other factors.

To prevent interference with war production, local communities must take immediate action to assure that equipment and manpower in the transit industry are used at maximum efficiency.

The staggering of business, school, and working hours promises to be one of the most effective methods of relieving local transportation difficulties. Every community must take quick steps to adjust the hours for factories, schools, offices, and stores so that war production workers and other persons doing essential work can travel to and from their jobs with minimum delay and discomfort. In many places, buses, now used exclusively for carrying children to and from school, can be used to transport workers to war production plants.

In addition to the staggering of hours, improved traffic-control measures should be put into effect throughout the country to make it possible for buses and streetcars to speed up service and to make a larger number of trips. Steps should be taken to clear up streets in congested areas through better regulation of the traffic flow and through the elimination of unnecessary parking on important thoroughfares.

In preparing to meet the rapidly growing need for public transportation, many new streetcars and buses are being ordered. Construction of these vehicles requires materials that would otherwise be available for direct war production, and the War Production Board will be reluctant to allow the materials to be so used. The Office of Defense Transportation must take into consideration, in recommending such action by the War Production Board, the extent to which the community concerned has taken steps to make greater use of what it now has through the development and adoption of plans for the effective staggering of hours to relieve transportation conditions.

JOSEPH B. EASTMAN,
Director of Defense Transportation,
Washington, D. C.

Transportation Speeded by Kansas City Parking Meters

By T. J. SEBURN
City Traffic Engineer
Kansas City, Missouri

THESE are days when speeding transportation is what counts. Hence the increased current interest in ironing out congestion, due to parking and trying to park in the business district.

In Kansas City, Mo., there are 50,000 vehicles in the central business area from 9:00 A. M. to 5:00 P. M. on each business day. This is the resident motor-vehicle population composed mostly of cars owned by workers. During peak shopping activity this number increases to 70,000 motor vehicles.

The entire curb space within this area of concentrated business would accommodate 2,600 vehicles if every foot of space were used for parking. However, there is the need of passenger zones at the larger buildings, loading zones for stores and shops without alley entrances, bus and streetcar loading zones. These needs reduce curb footage to space for 1,000 vehicles. We have 20 shoppers looking for each parking space!

The average person does not like to pay for terminal facilities in off-street parking lots and garages. He will, however, pay for parking time at the curb if he has business to transact. Therefore in Kansas City we have parking meters. While they have not been a panacea, they are a definite help in

It has always been smart to install Dual Automatic Meters

★ ★ *BUT NOW IT'S PATRIOTIC!* ★ ★

UNCLE SAM has asked us to save tires and rubber . . . and Dual Automatic Meters are doing their part. In cities all over the nation they are helping motorists keep from wasting gasoline and tires in search of a parking space. Professor Arthur L. Shepard of the University of Michigan has said, "An oil company finds that it costs 3¼ cents to drive around one block looking for a parking space." And that doesn't count tire wear! Dual Automatic Meters help put a stop to such wasteful driving.

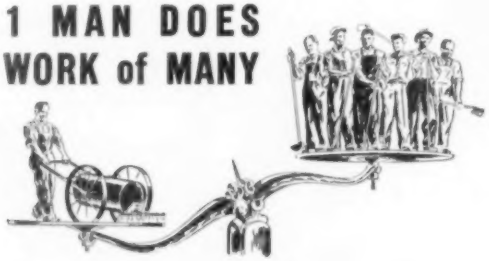
What's more, they aid National Defense by reducing fire hazards because the proper spacing of cars makes buildings more accessible in case of fire. They bring about a faster movement of traffic because they reduce congestion. And finally, they help hold down the ad valorem tax burden with their penny and nickel fees. Yes, it's not only good business to install Dual Automatic Meters . . . it's patriotic, too!

The Original CARL MAGEE METER . . . Licensed under Vehicular Parking, Ltd.

DUAL PARKING METER CO.

Commerce Exchange Building — Oklahoma City, Oklahoma

1 MAN DOES WORK of MANY



NOW you just must get along with less help—and with less experienced help. One way to save time and labor is to sprinkle Dolge Weed-Killer on your drives, walks, parking lots, tennis courts, running tracks, sand traps—all places you want free from growth. One man using this powerful chemical does the work of many with hoes and feeble materials. One sprinkling is usually enough for the whole season. Write for quotations today, while you can still get:

Dolge Weed-Killer

The C. B. DOLGE Co. — **Westport, Conn.**

WANTED: TRAINED ADMINISTRATORS

☆ Cities all over the country are losing some of their top administrators to the federal and state governments and to defense industries. Unless there are trained replacements for these key men, city governments will be seriously crippled. If you are a department head, you owe it to your city to train an "understudy" for your job. If you are a junior administrator, now is the time to prepare for advancement.

Enroll now in one of these ten practical correspondence courses:

- Technique of Municipal Administration
- Municipal Finance Administration
- Municipal Police Administration
- Municipal Recreation Administration
- Local Welfare Administration
- Municipal Personnel Administration
- Municipal Public Works Administration
- Municipal Fire Administration
- Local Planning Administration
- American City and Its Government

☆ Special texts have been prepared for administrators on the job. Lesson papers are reviewed by leading authorities in each field. The $35 fee for each course covers the text, individualized lesson instruction, and a certificate upon satisfactory completion of the work. The text alone sells for $7.50 a copy—$65 for a complete set. For use in group training projects, in lots of five or more, the price is $6 a copy.

There are now more than 700 public officials enrolled in these courses in nearly 300 cities in 42 states.

WRITE FOR A SPECIAL CIRCULAR TODAY

INSTITUTE FOR TRAINING IN MUNICIPAL ADMINISTRATION

1315 EAST 60TH STREET — CHICAGO

the distribution of inadequate curb facilities, by setting aside a definite space for each vehicle. They aid enforcement of time-limit regulations, and call attention to illegal parkers. They permit a more accurate check than formerly of the time parked by each vehicle, and in this manner help to eliminate the long-time parker. By registering the exact time, they make the shopper more conscious of the need for rapid transaction of his business, consequently increasing the parking turnover. They have forced the person who uses the curbs for long-time storage to move to side streets and to off-street facilities. The increased use of such facilities presents the only permanent solution to our parking problem.

By making it easier to park and unpark, meters have eliminated a certain portion of congestion on our streets and therefore have increased vehicle speeds slightly in congested areas. In these days, this is a defense factor.

In Kansas City, parking meters made their first appearance in June, 1936—more than five years ago. They were installed for a trial period at the very urgent request of merchants and businessmen. The city administration had been rather cool to them, indicating that it felt it was an additional tax burden to be imposed upon the motorist and that fairly good traffic enforcement was in effect without meters.

Incidentally, I might recommend that the best manner in which city officials can get meters installed and have them well liked is to maintain a rather cool attitude towards them. If the taxing authority is not interested in them, the general public immediately comes to the conclusion that they are not an additional tax.

The increased parking turnover in cities installing meters varies from 15 per cent in cities where there was strict enforcement before meters, to 500 per cent where there was practically no enforcement of parking regulations prior to the installation of meters. In our case, the increased turnover as a result of meter parking amounted to 18 per cent, which is due in my opinion to the fact that meters enable the officers to make a more accurate check of the elapsed time. Without meters it may be 30 or 40 minutes after the vehicle is parked before timing starts. With meters it begins at once.

The revenue from parking meters ranges from $5 per meter per month to $12 per meter per month, the average being about $8. In Kansas City, prior to June 1, 1940, collections were made by the treasurer's office. Then our new city administration placed the collection as well as the maintenance under the supervision of the Traffic Engineer's Office, and it was found that meter outages decreased to practically zero and revenues increased 31 per cent. The cost of meter maintenance and collections was reduced 15 per cent, making a net gain of almost 50 per cent in revenue to the city.

Metered parking in Kansas City

Cooperation Will Speed Up Mass Transportation

By THEODORE M. VANDERSTEMPEL
Traffic and Transportation Engineer, Miami, Fla.

LONG observation convinces me that the majority of urban, interurban, interstate, and intrastate transportation companies do not realize that the purpose of the Institute of Traffic Engineers is to improve and increase the rapid, safe flowing of traffic, while the result of the National Conservation Bureau work is the safety of the public. Both these endeavors benefit the public—the bus and transit passenger and the transportation company—actually increasing net revenues.

The traffic division of a police department wants public-carrier passengers to reach their destination safely and quickly. Thoroughgoing collaboration between transportation companies and traffic divisions of police departments will produce results satisfactory to the transportation company and the passenger, at the same time improving traffic conditions. An example of cooperation between carrier executives and traffic officials may be seen in the preparations made for special events within the Chicago Park District. The smooth routing of mass transportation is arranged by the park police and the various public carriers of Chicago, as described in THE AMERICAN CITY magazine for November, 1941.

It is essential that the management of a transportation company, through its traffic or transportation engineer, get acquainted with the traffic problems of the local police. On the other hand, the traffic police must comprehend the task confronting the transportation executives. Then the police and the company together can work out the routing or rerouting of the transportation system through the densely crowded business centers. By means of through-routes, extended headways, staggering of peak hours, one-way traffic, etc., they would be enabled not only to decrease peak congestion but also to help the transportation company maintain safer and faster schedules.

It seems desirable that an engineer, acquainted with the requirements of traffic facilitation and mass transportation, be engaged by each transit and transportation company to make recommendations. This should aid the traffic division and the transportation company in laying out the most efficient transportation system beneficial to both riding public and company—to motorists and merchants as well.

Here's An Effective Luminaire For Street or Defense Lighting

THE L-M PRISMALITE

An entirely new luminaire—the L-M PRISMALITE—is now available for street and fence lighting so vital to the protection of lives and property essential to our defense effort. Its application is universal.

The PRISMALITE is high in effective light output, low in maintenance cost, permanent in its characteristics and highly adaptable to varied conditions, making it ideally suited to most defense needs.

The scientific design of the new prismatic glass reflector of the L-M PRISMALITE results in high, effective light output. Because glass is not affected by atmospheric conditions, the initial efficiency of the PRISMALITE is never impaired.

Constructed and designed so as to be dust-proof, the PRISMALITE does not require cleaning except at infrequent intervals. When cleaning is needed, the reflector can be quickly removed, immersed in a cleanser and its original reflectivity is restored. Complete interchangeability of PRISMALITE parts helps further to make maintenance easy and economical.

Many choices of mounting, refractors, heads and receptacles makes the PRISMALITE adaptable to any lighting requirements. Too, the PRISMALITE can be used on either series or multiple lighting circuits.

Before you choose any luminaire for defense—or street—lighting investigate fully the advantages of the L-M PRISMALITE. Ask your L-M salesman, or write Line Material Company, Milwaukee, Wisconsin, for L-M Bulletin 4131.

LINE MATERIAL COMPANY

Outdoor Lighting
Streets—Highways—Floodlighting

Distinguished Boulevard Lighting in Cincinnati

By ROBERT J. STOCK
Electrical Engineer
Department of Public Utilities
Cincinnati, Ohio

IN September, 1941, a distinctive boulevard lighting system was installed in Cincinnati, Ohio, on Columbia Parkway, a part of four Ohio State routes and a major thoroughfare connecting Cincinnati's main business area with its eastern suburbs. The roadway is very heavily traveled, particularly on week days when individuals hurry to and from their places of employment, and on Sundays and holidays, when the roadway is used as a vantage ground for sightseeing.

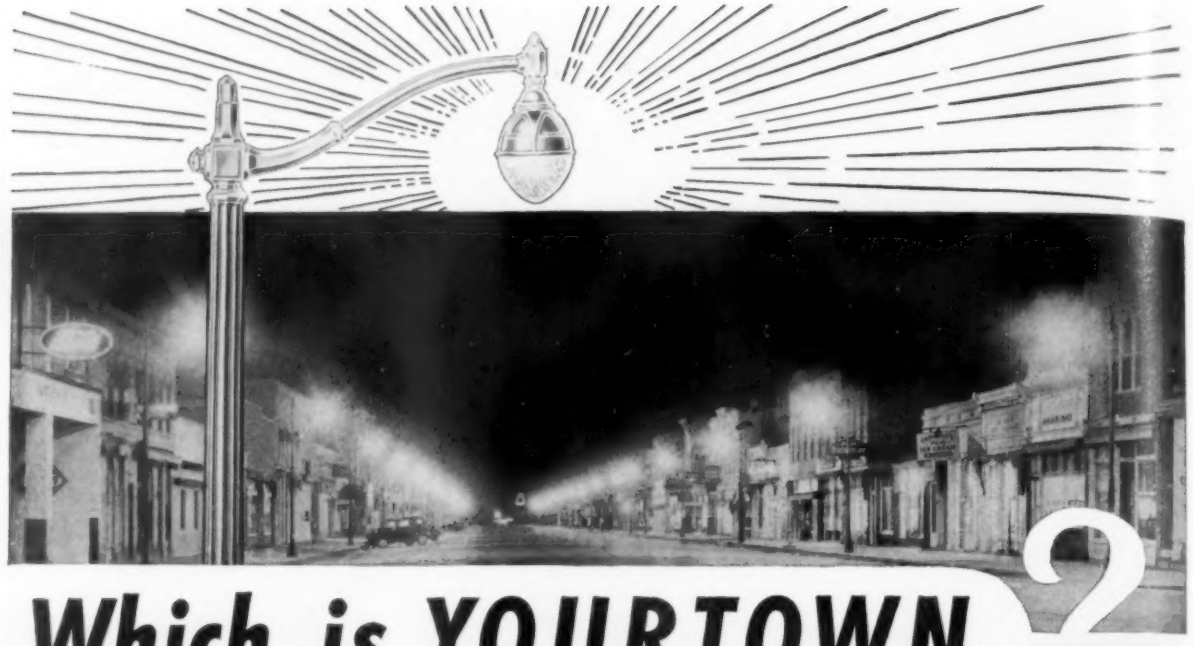
Because there are few obstructions on the river side of the roadway, a broad view can be had of the scenic Ohio valley; the river with its long sweeping bends, boats and barges of all descriptions, the colorful hills of Kentucky with her communities and industries, the graceful spans of bridges connecting Ohio with Kentucky, and many other interesting sights.

Therefore, in designing the lighting installations, a great deal of consideration was given to keeping the river side of the roadway free from unnecessary obstructions, including light standards.

The design of the lighting system departs somewhat from standard engineering practices. The reason for this is the manner in which the roadway is constructed and located. This con-

Cincinnati's Columbia Parkway

Standards and brackets by The Union Metal Mfg. Co.—lamp current transformers, luminaires with reflectors by Line Material Co.—main constant current transformers by The General Electric Co.—high voltage cable by Anaconda Wire and Cable Co.—3-inch duct by The Johns-Manville Co.



Which is YOURTOWN ?

WHICH of these streets are the workers in Yourtown traveling as they move to and from the night shifts in wartime industries? If you value the efforts of these people, as well as their lives, you must extend to them the benefits of safety street lighting.

What are those benefits? Examine the two illustrations above. In the lower view you see what would pass for a "blackout" in most European cities, yet it typifies the quality of lighting found in many busy American communities. Pictured at the top is a thoroughfare equipped with safety lighting. Not much doubt, is there, on which street you would prefer to drive at midnight after 8 hours at a lathe or work bench.

Among progressive cities, safety street lighting and Union Metal standards are synonymous. The reasons—these modern standards place the luminaire at the proper height for efficient light distribution and are built to give lasting service at a low maintenance cost. Let Union Metal engineers show you how safety lighting can help you keep the traffic rolling after sundown with less effort and fewer accidents.

Keep 'em rolling . . safely

THE UNION METAL MANUFACTURING CO.
CANTON, OHIO

crete roadway lies on the side of a hill, 150 feet above the Ohio River. It is about 6½ miles long and 40 to 56 feet wide, for four or six lanes. On the north side, for the entire length of the parkway, is a high concrete retaining wall, having high light-reflective properties. On the south side, the hills slope quickly from the sidewalk adjacent to the pavement down to the river.

The installation consists of 80 ornamental standards and brackets equipped with single-unit 600-cp (320 watts) street series lamps. The standards are located on the north side only and spaced 120 feet apart. Ordinarily, lamps located on only one side of a roadway produce a lower level of illumination on the roadway opposite the standards, but such effect is materially offset by the reflection of light from the retaining walls to that side of the roadway where there are no standards.

The center of the light source is 22 feet 8 inches above the roadway. The luminaire consists of a pendant-type aluminum head with inner reflector and deflector which provide for asymmetrical distribution of light; that is, light distributed along the roadway. These reflectors and deflectors are encased in a clear configuration acorn-shaped globe. The bracket is of the up-sweep type, 6 feet long and equipped with a ball-and-socket joint for the alignment of the luminaire. The standard is 21½ feet long and fabricated from one-ply, 11-gage pressed steel. The standard rests upon a cast-iron octagonal-pyramidal-shaped base 1½-foot high, within which is a lamp current transformer. Each lamp has its individual transformer. Transformers are arranged for either a 600-cp or 1,000-cp 20-ampere lamp. If, in the future, it is desired to increase the intensity of the lamps, it will be necessary only to replace them with 1,000-cp lamps, and this can be done without affecting any other part of the system except the load on the main constant-current transformer.

One 3-inch duct installed in the wall footing along the curb line, houses two primary high-voltage cables of No. 8 copper with a 35 per cent rubber insulation, copper shielding tape, and a 60 per cent rubber outer jacket. To facilitate maintenance, one cable bearing a ridge on the outer jacket is connected with the constant-current transformer and the last lamp transformer in the circuit; and the other cable with unmarked outer jacket connects the constant-current transformer with every lamp transformer in the circuit. Primary disconnects on the individual lamp transformer provide for simple sectionalizing of the circuit for locating operating faults when they occur.

The installation of these lamps cost $14,720, exclusive of the duct and the foundations for the standards, as these were installed along with the wall footings under a different contract.

The installation has been praised by public officials, engineers, and laymen, and also by our Kentucky neighbors who enjoy the night view of our picturesque white way.

• • • —

Citizen Cooperation Needed for Blacking Out

BLACKOUTS cannot be made by "pulling a master switch" at a central point. It is up to each citizen to take whatever steps are necessary to make a blackout effective on his own premises.

A moment's reflection will make it clear why it is impractical and undesirable to shut off the city's electric supply at a central source. To do so would practically wipe out police, fire, and army communications systems. Without power to operate pumps, important areas of the city would be without a water supply for fire protection. The same electricity that lights your home also operates your refrigerator, radio, and cooking equipment and performs dozens of other services. There is no reason why your home should be deprived of the many related functions of electricity merely because one function—lighting—must be curtailed during a blackout.

As a matter of fact, there is no reason why anyone should have to forego the pleasure and convenience of well-lighted quarters during a blackout period. It is far better to have the essential rooms of your home so prepared that they can be used in emergencies with no tell-tale speck of light showing on the outside. Then the family can continue with its usual activities instead of huddling in the dark or in the weak light of substitute lighting methods such as candles or oil lamps. Even where such substitutes are employed, the room or home still must have all openings covered so that no light shows from the outside. Make your own home a first line of defense against war jitters. Electric lighting truly is your best friend in the hours of greatest darkness.

Los Angeles' 450 square miles are lighted by 90,000 street lights—30,000 operated directly from electrical distributing stations. In the event of a blackout signal these will be immediately disconnected at the stations. The remaining 60,000 street lights, of the ornamental type, are controlled by 812 electrically-operated time-clock switches located at as many isolated points on the system.

It is standard practice in large cities to connect such ornamental street-lighting systems by time-clocks, as in New York City where there are 28,000 of such separate systems in operation.

On the night of the first blackout in Los Angeles, many citizens asked why all street lights were not turned out promptly following the warning signal. The principal delay was caused by the inability of Bureau of Power and Light workers to reach the hundreds of control points. Picked crews had been assigned to this important task, but their automobiles were stopped by soldiers, by police, and by well meaning citizens acting as self-appointed wardens. Even though the utility workers carried credentials, many of them were physically prevented from carrying out their duty.

Since then, arrangements have been rushed to completion by the Bureau of Power and Light to assure prompt turning off of the city's street-lighting system.

Auxiliary devices have been added to the time-clock controls to permit responsible persons, picked from residents living near the control points, to turn off lights following receipt of a blackout signal. These emergency squads are primarily from the ranks of Department of Water and Power employees, but many other city employees and private citizens are assisting.

The public can cooperate by not detaining the "turn-off" crews.

It will not be possible to turn off street lights as rapidly as residence lights, but it is obligatory upon every home owner and business man to blackout his own premises IMMEDIATELY. Do your part and the street-light crews will do theirs as fast as is humanly possible.

—January, 1942, *Bulletin of Los Angeles Department of Water and Power.*

Bethlehem Relights

"Bethlehem, Pa., has provided 600 per cent more light at an increase of only 10 to 15 per cent in cost," writes Councilman Reussner. He will tell how in an early issue of THE AMERICAN CITY.

New REFRACTOLUX LUMINAIRE GIVES New SAFETY FOR WAR PRODUCTION

SG-10 shown in quarter-section cut-away.

How a "Wall of Light" Blocks Plant Sabotage

Here is another substantial contribution by our lighting engineers to sustain and safeguard America's 24-hour war production schedules. It's the Westinghouse Type SG-10 Refractolux Luminaire.

This new Refractolux combines a steel-protected silvered glass reflector with better methods of light control. When installed on the sides of industrial plants or on properly located poles, the units produce a protective "wall" of intense light. Trespassers are immediately revealed as they approach plant boundaries, fences, storage areas or production centers.

We've designed this high-candlepower luminaire to assure effective, night-after-night protective lighting. SG-10 is typical of Westinghouse *engineered seeing*—the combination of scientifically designed fixtures expertly applied to achieve the best visibility conditions. Full data is available in our new Protective Lighting Planning Book, B-3085. Write Westinghouse Electric & Mfg. Company, Edgewater Park, Cleveland, O.

The SG-10 consists of a canopy, high or low voltage type for internal or external wiring; a socket, mogul multiple or series type; a sheet steel housing that protects the glass reflector; a silvered glass reflector, cushion-mounted to absorb shock; and either a refractor or globe. Canopies, wiring and mounting arrangements and glassware are all interchangeable. A porcelain enameled shield, with refractor type units, redirects light from the pole side, and a hand-operated toggle latch releases the hinged globe or refractor for safe, easy maintenance.

Westinghouse

Lighting Equipment

Why not remember to mention THE AMERICAN CITY.

Night Safety Bought Cheaply

By R. E. Simpson
Chairman, Sub-Committee on Public Lighting and Traffic Safety, I. E. S.

FOR an expenditure averaging $1,000 a mile along about 200 miles of hazardous thoroughfares, a handful of American communities over periods of from one to four years have experienced. . . .

195 *fewer traffic deaths,*
3,474 *fewer traffic injuries,*
7,304 *fewer property damages, and*
a savings in accident costs totaling
$5,891,000!

This investment of about $200,000, which returned so much for so little, was made in the improvement of street lighting along an extremely small percentage of the total street mileage in these communities. And the reduction was, of course, in night accidents which previously had extracted a tremendous toll.

Community Savings

Remodeling of street lights in one city alone, about 100 miles of main traffic streets where night accidents were extremely bad, brought about an estimated annual community savings of $2,627,800, which figured on a per capita basis would equal $1.61; a per capita expense of only $0.05 produced this savings. Or, expressed another way, the community pocketbook was saved enough in night accident reductions on 100 miles of streets to more than equal the city's total street lighting bill of well over a million dollars.

Special lighting treatment at 20 intersections in another city brought about a reduction in night accident costs equal to 75 times the special lighting cost.

And if such items as medical and hospital fees, loss of wages, cost of litigation, cost of traffic regulation and control were reliably obtained and considered (they are not considered in this report), the savings in these cases would be more than doubled.

Remarkable and almost unbelievable must such records seem to the city councilman, county supervisor, traffic engineer, automobile club, safety executive, and other authorities interested in traffic safety. Yet more remarkable is the fact that these results can be duplicated again and again throughout the United States. Only the action of responsible officials is needed for their realization by the masses of American motorists and others who gain through traffic safety, or suffer by its absence. For night danger zones which need lighting improvements exist everywhere.

Report of the Sub-Committee on Public Lighting and Traffic Safety of the Illuminating Engineering Society Committee on Street and Highway Lighting, 1941.

Light, Sight, and Accidents

Of the 34,500 traffic deaths in 1940 which President Roosevelt mentioned in his August proclamation, 19,900 occurred at night, according to National Safety Council reports. These 19,900 deaths were caused when only one-third of the nation's automobiles were in operation. Why? Has light and sight got anything to do with it?

Let us assume that for the next two hours every person in his country were deprived of his sense of sight, and that traffic, both vehicular and pedestrian, carried on at the customary volume and speed. The carnage during those two hours would make even this world conflict seem tame by comparison.

Aside from the general handicap of poor visibility at night, there is a special handicap seldom appreciated or properly evaluated by the public. This handicap arises from the fact that when lighting is poor the eye functions slower and with less clarity than when lighting is adequate.

The bearing this has on traffic accidents may be visualized if we assume a motorist is driving on a city street at 30 miles an hour (44 feet per second) and a pedestrian steps into the driving lane 44 feet away, or one second's driving time. In daylight the motorist would see the pedestrian instantly, would immediately take precautionary measures, and probably would avoid an accident. At night with poor lighting the motorist would not see the pedestrian instantly. There would be a time lag of a fraction of one second before he became aware of the presence of the pedestrian. In that fraction of a second, the car would have traveled one-third to one-half the distance separating it from the pedestrian. Thus both the distance and the time available to take precautionary measures would have been shortened materially, and the chances of an accident would be greatly increased.

A review of traffic accident records cannot fail to impress one with the unduly large number of night accidents in which the hazard appears suddenly. There is one significant difference in the description between the day and night sudden-appearance types of accidents. In the case of day accidents, almost invariably the statement is to the effect that *the pedestrian walked right in front of the car*, the inference being that the driver saw the whole thing from the beginning. The description of a night accident, on the other hand, conveys the idea of sudden appearance from nowhere. We know that the pedestrian or object did not pop out of the street, nor drop from the sky. These hazards were either on the spot or were proceeding to the spot where seen, and were there or proceeding there for a fraction of a second before they were actually seen. Thus, unwittingly but nonetheless accurately, *the description gives the cue to the cause, viz., there was not enough light to enable the driver to see the hazardous situation while it developed.*

Traffic safety engineers are agreed that the majority of traffic accidents are due to a group of causes which arise day after day, and night after night.

However, no recognized organization or authority has undertaken to establish such a standard by actual driving tests. There is ample evidence, in the form of excessively high night accident rates, that the lighting on the majority of our cities' thoroughfares is inadequate, and therefore will be found to be below this *as-yet-to-be-established standard*. Some of the data from Hartford, Conn., where special studies have been made during the last five years, give an indication of what this standard might be. See table below.

ACCIDENT RECORD DURING THREE STAGES OF LIGHTING ON FOUR HARTFORD STREETS, TOTALING ABOUT SIX MILES

	Number of Accidents		Accidents per Million Vehicle Miles		Cost of Night Accidents
	Day	Night	Day	Night	
1st Stage—0.17 lumen per sq. ft.—1 year.	102	98	7.64	23.75	$29,990
2nd Stage—0.35 lumen per sq. ft.—average 3 years	93	60	7.11	12.06	21,560
3rd Stage—0.69 lumen per sq. ft.—1 year.	102	42	6.10	8.00	15,300
Per Cent Change:					
2nd Stage over 1st	—8.8%	—38.7%	—6.8%	—45%	—28.1%
3rd Stage over 2nd	00	—57.1%	—14.9%	—63.8%	—48.9%

CITY HALL, PENSACOLA, FLORIDA

☆ THE CITY OF PENSACOLA, FLORIDA, has its city-owned properties inspected regularly by specialists of The Home Insurance Company.

☆ The original survey and report gave the city 20 per cent more protection at 20 per cent less cost by rearranging the form of policy and by correctly classifying every separate piece of property.

☆ The physical plants of every city are undergoing changes which individually may go unnoticed, but which add up to over-insurance or under-insurance. The regular HOME inspection of municipally-owned properties is an invaluable service rendered at no obligation to the city. It draws attention to new conditions about which the city government makes its own decision. Its object is to furnish maximum protection at minimum cost. This service is available to your city.

The Companies in The Home Fleet

THE HOME INSURANCE CO. OF NEW YORK
THE BALTIMORE AMERICAN INSURANCE CO.
THE CAROLINA INSURANCE COMPANY
CITY OF NEW YORK INSURANCE COMPANY
THE FRANKLIN FIRE INSURANCE COMPANY
THE GEORGIA HOME INSURANCE COMPANY
THE GIBRALTAR FIRE & MARINE INSURANCE CO.
THE HOMESTEAD FIRE INSURANCE COMPANY
NATIONAL LIBERTY INSURANCE COMPANY
THE NEW BRUNSWICK FIRE INSURANCE COMPANY
THE PAUL REVERE FIRE INSURANCE COMPANY
THE HOME INDEMNITY COMPANY

ENGINEERING DEPARTMENT

THE HOME FLEET OF INSURANCE COMPANIES

59 MAIDEN LANE NEW YORK CITY

Wartime Activities of City Officials

Birmingham Collects Scrap Metals in Whirlwind Campaign

BIRMINGHAM, ALA.—In a four-day whirlwind campaign, culminating on January 21, the city government of Birmingham anticipated a letter made public on January 31 in which the Bureau of Industrial Conservation of the War Production Board urged the mayors of all cities in the United States to initiate measures for efficient salvaging of waste materials from municipal dumps and incinerators.

In Birmingham, we first obtained the proper publicity through our three local papers and radio stations. No other organizations were involved, except the city forces.

The garbage crews worked late the day before and got an early start the morning of the collection, finishing their regular routine first. Then they systematically went back over their territory on their own time and gathered scrap. The other crews worked full time throughout the day. In all, there were 45 trucks involved. We gathered over 400,000 pounds of scrap and delivered it to the junk yards here, receiving $13 per ton. All proceeds went to the civilian defense program in this county. (Our laws do not permit the city to make an outright contribution to the civilian defense program, so we used this as one of the means through which the organization can meet its financial needs.)

Most of the scrap gathered came from the basements of dwellings and consisted of junk which had been accumulating through the years and therefore our collection did not conflict with regular licensed scrap collectors. We made no attempt to separate the various kinds of metal, but delivered it "as is" to the junk dealers.

As a result of numerous telephone calls from people who failed to respond to the first appeal, we have now gone over the 500,000-pound mark.

Lessons Learned

If I had the same program to carry out again, I would take more time and would get numbers of organizations to help. Had we done this, I think we could have doubled the amount collected. At any rate, if other cities throughout the nation would put on a similar campaign, a tremendous amount of scrap could be salvaged and the existing shortage would be relieved. Our efforts are being followed by many smaller communities throughout the state.

It might be of interest to other cities to know that each week we are getting from our city dumps and incinerators 90,000 pounds of empty cans, 60 tons of paper bags, cotton, and other trash that go with garbage, one ton of rags, along with waste rubber and things of that sort. We have a contract with a big salvage company with a home office in New York State, which is gathering our salvage of this kind, and they are doing an excellent job. The Salvation Army, Goodwill Industries, and private paper concerns get the cream of the wastepaper here, with the concern handling ours getting nothing but the lowest grade of trash that goes with the garbage. Our contract with this company is profitable to the city, and apparently is also to the company handling the salvage.

J. W. MORGAN,
Commissioner of Public Improvements.

Abandoned Water Works Building Converted into an Air Raid Shelter

Asheboro, N. C., has established what is probably the first public air raid shelter in the state. The decision to use a reservoir of the city's water works, abandoned two years ago when a new system was put in, was reached recently when the city and county leaders decided that it was advisable for them to get together to work out a civilian defense plan for the town.

The domed structure, something like an Eskimo hut, is directly behind the city hall, is 60 feet across, about 20 feet tall, and eight inches of solid concrete all around.

A smaller building of the same type —the old filtering plant—is beside the reservoir and can also be used as a shelter in case of raids. In recent months the structure has been used as a sort of city garage, where city-owned trucks and other vehicles have been stored.

A spotter tower has been erected on the roof of the city hall where the city's big fire alarm siren is located. The tower is manned by men who daily gain more experience and who can sound a warning on the siren in case of a raid.

Believing that "it can happen here," this civic-minded town has thus made provision to take care of hundreds of its residents should the day ever come when the wings of the Rising Sun or Hitler's swastika fly over dropping their bombs. Unless the shelter received a direct bomb hit, Asheboro's citizens would be safe from such an attack.

Air Raid Shelter, Siren, and Airplane Spotter, Asheboro, N. C.

SIRENS
BY SPARTON

AIR RAID—FIRE! EMERGENCY!

A LINE of sirens, horns and emergency signals famous for more than forty years for precision manufacture.

MODELS 37, 38 and 39

A series of big, rugged, high-powered, non-directional electrical sirens that have a penetrating siren howl which carries for 2 to 5 miles. Particularly suitable for large areas such as municipalities, airports, government properties, industrial or defense plants, universities and public utilities. Strong, serviceable, precision-built: comparable to units costing considerably more.

Base has three lugs for installation on roof. Base threaded for standard 2½" pipe for high altitude mountings; guy wires can be attached to lugs. Made in three sizes with universal motor operating on 50 to 60 cycle AC single phase or DC current. Equipped with screens to keep out bugs and birds. Constructed to withstand all weather conditions.

Volt	Height	Diam.	H.P.	R.P.M. Approx.	Weight
Model 37—110-120 AC-DC	25¼"	14"	1	7600	82 lbs.
Model 38—110-120 AC-DC	30¼"	14"	2	6800	93 lbs.
Model 39—220-230 Single Phase AC	30¼"	14"	3	5700	105 lbs.

MODEL 35. A directional siren for small communities, railroad yards, docks, warehouses, car barns, business buildings, apartments, industrial plants, local fire stations. Equipped with screens to keep out bugs and birds. A practical, rugged alarm for protection against intruders, sabotage and all civil, military and industrial emergencies; long-lasting weather-proof construction for unfailing service. Operates on 110 volts, 60 cycles AC. Ht., 9½"; length, 14"; wt., 15¾ lbs.

MODEL 36. Equipped with flare for efficient projection of tone. Effective for emergency vehicle use, motor cars, trucks, ambulances, fire and police cars, motorcycles, boats. Endorsed by law enforcement authorities, air wardens and marine patrols. Gives a loud, penetrating blast. Directional. Equipment includes 9 ft. of cable and push button for installation in any location desired. High speed motor. Available in 6 volt, 12 volt, 32 volt. Ht., 9"; width, 7"; length, 11"; wt., 11 lbs.; rotor diam., 5½".

MODEL 601. As designed for use on Army Tanks. Ideal for police, fire and emergency cars, ambulances, motorcycles. Rugged, all steel construction; housing and base of heavy drawn steel stampings. Equipped with 6-Port-opening rotor. Directional. Available in 6, 12 and 24 volts DC—R.P.M. 7000 Approximate. Wt., 4¼ lbs.; diam., 4¾"; length over-all, 6¾"; ht., inc. base, 5⅞".

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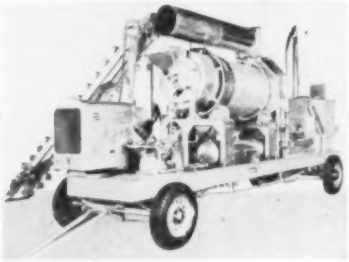

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Be sure to read the WAR MESSAGE TO ALL EMPLOYERS from the United States Treasury Department.

See Page 26

Sandbag Barricades Built with Asphalt-Sand Mixtures

The American Petroleum Institute calls attention to the fact that sandbags for barricading important buildings in San Francisco against air raid damage are being filled with a combination of sand and asphalt, rather than sand alone.

The mixture is highly resistant, the San Francisco Department of Public Works reports, can be tamped into shape, and most important, within a short time becomes so stabilized that it will not run or disintegrate when the burlap bags are cut or rot away.

A very small amount of asphalt cement, about 3 per cent, is mixed with fine sand. The mixture is heated with regular asphalt-heating equipment, and can be sacked by a two-man crew at the rate of 200 bags an hour. The sacks are filled only to about 60 per cent of capacity, with approximately 160 pounds of the mixture. By this means there is plenty of free play left for tamping into position in the barricade.

Sand-bag barricades have needed frequent replacing, particularly if the sand was wet, because the burlap rotted quickly and the sand ran off. The sand-asphalt mixture, however, will remain in place undisturbed even if the sacking is entirely cut away.

Providence Enlists "Ham" Radio Operators As Emergency Police

PROVIDENCE, R. I., has made its "ham" radio operators full-fledged but unpaid members of the police department in setting up an emergency communications system for air raid work, the American Municipal Association reports.

The amateur operators have been sworn into the Providence Police Mobile Radio Patrol, making them eligible to operate the police radio equipment as well as their own during an air raid, should telephone communications be bombed out or otherwise damaged.

The city "emergency" network is composed of eight short wave stations each of which will have a "walkie-talkie" transmitter and receiver set that can be packed on the back of a station staff member. Such a staff member on air raid patrol could report from any damage scene to the district station, which would relay the message to the report center for counter-action by the various protective services.

Three Cities Added to List Salvaging Abandoned Streetcar Rails for Defense

Seattle and Bellingham, Wash., and Atlanta have been added to the growing list of cities salvaging abandoned streetcar rails to provide iron and steel scrap for armament purposes, information to the American Public Works Association shows.

Plans are nearing completion in Atlanta for salvaging approximately 33 miles of unused track. WPA labor will be used in removing the rails, which city officials say can be sold for approximately $70,000. The Georgia Power Company has agreed to give the rails to the city, the $70,000 applying as the city's part of repaving costs. The track probably will be removed a block at a time to avoid obstructing traffic.

Seattle and Bellingham are removing 16,000 and 12,000 tons of abandoned rails respectively, with the WPA providing the labor for salvaging and resurfacing.

In one large rail salvaging project inaugurated recently, 16 western Pennsylvania cities began removing a total of 8,800 tons of steel and scrap—enough to produce 17,600 tons of open hearth steel.

• • • —

A Reminder of World War I

IT'S GOING TO BE UNIVERSAL TRAINING FOR THESE ANYWAY

This "Ding" cartoon, published originally in the *New York Tribune*, was reproduced from that newspaper in the May 1917 issue of THE AMERICAN CITY. It was one of the illustrations in an article which pointed out that, as a wartime measure, gardening had suddenly become a municipal function of the first importance.

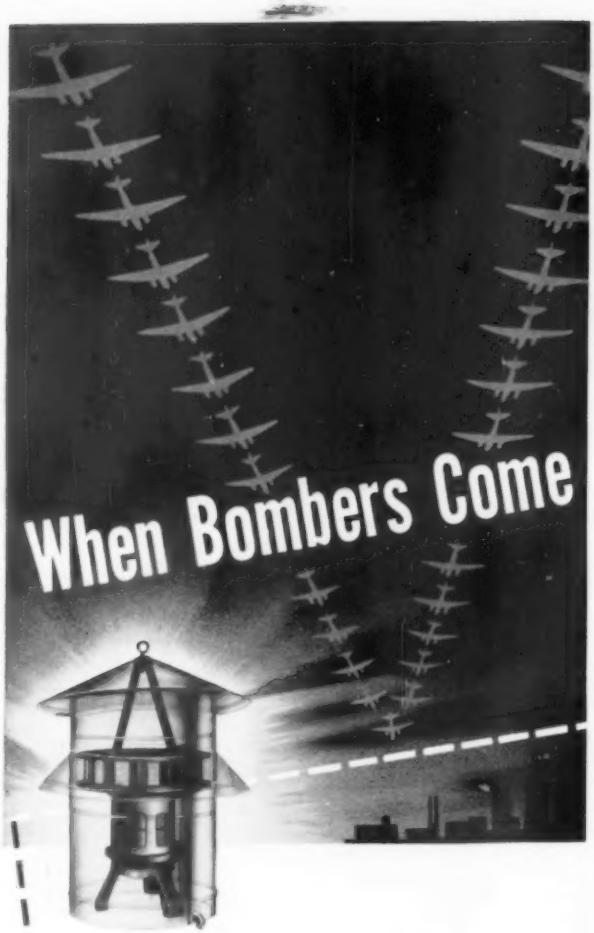
While there seems little likelihood of a food shortage in the United States during the present world war comparable with that of 1917-18, The Victory Garden Program recently announced by the Office of Civilian Defense merits the hearty cooperation of local Defense Councils.

From *OCD NEWS Letter* of January 31:

The purpose of the program is to provide more food and a better-balanced diet for individual families and for community projects such as school lunches and emergency food needs. Since the quantity of tools, seed, and fertilizer is limited, each should be used carefully and efficiently to avoid waste. Only land of proven fertility should be planted.

Local Defense Councils are urged to take full advantage of all community resources, experienced gardeners, and agricultural experts to promote the garden program. Plans also should include the means of utilizing all food produced.

Local Defense Councils planning to undertake Victory Garden projects are urged to preserve existing lawns, flower gardens, and plantings which add beauty and dignity to the community.



In bomb-blitzed Britain—proud survivor of countless bombings—air raid practices are no longer a matter of *guess work or personal prejudice.* Significant indeed is the fact that in England as in other war stricken areas more ELECTRIC sirens are in use than all other types combined. Follow the path of tested experience. Make certain YOUR air raid warnings are ELECTRIC. Write for Bulletin No. 68 today. Federal Electric Co., Inc., 8744 S. State St., Chicago, U.S.A.

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Modern Heil Street Flushers and Garbage Collection Units save money with bigger loads, faster operation and more efficient performance. Write or wire for complete details today.

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Intermunicipal Fire Protection Plans Useful As Wartime Measure

American cities extend fire protection services to neighboring communities under at least two types of arrangements important today because of possibilities of bombings, sabotage, or other wartime disasters, according to a survey by the International City Managers' Association.

The arrangement used most extensively among 30 cities in 21 states covered by the survey provides for "outside" fire service by one governmental unit to nearby cities and villages. State enabling legislation making this possible usually restricts it to adjacent communities or those within the same county.

The other arrangement involves operation of mutual aid plans of the type common in Great Britain since the start of the war. Under this plan, legal in only five of the 21 states covered by the survey, cities participating agree to help one another in time of disaster with fire-fighting equipment and man power.

The Association points out that the recent trend in state legislation is to allow local fire departments to operate apparatus anywhere within the state or even across state borders when aid is arranged for.

Fifteen of the 30 cities render outside service of an emergency nature only, with no prearranged understanding. Four of them—Buffalo, Chicago, San Francisco, and Washington, D. C.—have formally provided by fire department regulations, ordinance, or city charter that apparatus may be sent outside, but no actual working arrangements have been made with surrounding municipalities.

Only five of the 30 cities are members of mutual aid plans, outstanding of which are those of Boston and the Westchester county area in New York. Under the Boston plan, nearly 30 cities are interconnected by fire alarm systems, affording protection for 1,750,000 persons. Forty-four of the 56 fire protection districts in Westchester county are included under the mutual aid plan there.

Charges for outside fire service vary. Baltimore requires only that damage to equipment be paid by the municipality asking help. In Buffalo, the fire chief may impose a charge or render service free. Most charges are based on cost per unit of equipment per hour of use, and range from $20 to $150 per hour.

In addition to charges for services rendered, Detroit and Minneapolis require outside municipalities to pay for damages to equipment or injury to personnel. Detroit, Minneapolis, and five other cities include in their contracts a clause absolving them from liability for property damage or personal injury.

Only 11 of the 30 cities render outside aid on a formal basis with a clear understanding of the obligations of each party, according to the survey. The Association said it would be advisable for cities with mutual aid or other outside fire protection plans to put them in contract or ordinance form specifying how service should be paid for, who is to be in command at fires, and other details.

Mayor of Trenton Broadcasts Weekly on Civilian Defense

Since January 19, Mayor John A Hartman of Trenton, N. J., at the request of the Trenton Defense Council, has been speaking to the people of that city each Monday evening, over the local radio station, on the subject of Civilian Defense.

In the first of these messages the Mayor pointed out that:

"Morale plays an important part in war; and if war *does* come to our doors, we know that it will be directed largely at our citizens—to demoralize them by the sight and sound of death and destruction. Counter-strategy, therefore, requires well laid plans, designed to provide all possible protection for our civilian population.

"In order to insure such protection for the people of our city, the Trenton Defense Council, under the Chairmanship of Prosecutor Andrew J. Duch, has evolved a very complete plan of civilian defense.

"The Defense Council itself numbers 17 members—all residents of Trenton. Eleven different members of the Council serve as the Chairmen of eleven different committees—and every chairman is, by reason of his special training and experience, thoroughly competent to fill his particular post."

These eleven committees cover the following problems or activities: Vulnerability; Public Relations and Morale; Transportation; Police Reserves; Fire Reserves; Health and First Aid; Air Raid Precautions; Motor Corps; Consumers' Interests; Advisory Committee on Fair Rents; and Tire Rationing.

In his second and subsequent broadcasts Trenton's Mayor has been discussing in some detail the activities of these committees, one each week in the order named. In his January 26 talk, for example, describing the work of the Vulnerability Committee, Mayor Hartman explained that:

"The Committee is now engaged in preparing a series of maps showing the location and nature of all vulnerable structures and services—such as industrial plants having war contracts, the water system, the gas and electric systems, the sewer system, communication systems, public buildings, highways, bridges, and other miscellaneous structures and utilities—the maintenance of which is vital to the safety, health, and comfort of our citizens. This information will be a guide to providing the necessary protection against bombing, sabotage, or other possible disaster. The Committee is also preparing individual, large-scale maps of each of the 250-odd zones into which the city is being divided—for the use of the Air-Raid Wardens assigned to these zones. . . .

"The Vulnerability Committee is also preparing an inventory of all contractor equipment which it may be necessary to commandeer in order to quickly repair damage in an emergency; and it is enlisting volunteer workers in the various trades for emergency service in the event of a major disaster."

Discussing the Committee on Public Relations and Morale, on February 2, Mayor Hartman summarized his talk by pointing out that this Committee functions, "in the first place, as a sort of information bureau, with the ultimate objective of establishing such a degree of civilian discipline in the province of civilian protection that, in an emergency, all our defense plans will be successfully carried out; and, in the second place, as an agency which, having a kind of spiritual mission, will strive to keep our minds informed, our vision clear, our courage high, and our will *unconquerable* in the difficult times that lie before us."

The February 9 talk was devoted to the Transportation Committee. Three significant paragraphs follow:

"We are in war—grim, hard, totalitarian war. Without getting overly excited about it, we must think in terms of even the most extreme realities. Suppose enemy plane action would make of Trenton a Coventry and, because of bursted water mains, destroyed sewers, and annihilated homes, it became necessary to evacuate a part of, or all of, Trenton's population to the country or to the hills, then what means would we have of moving the people out? We hope such a day will never come, but certainly we must plan for it if it should come. . . .

"The Transportation Committee has already substantially completed a detailed inventory of the equipment which could be utilized. All railroad rolling stock, buses, trucks, and private automobiles are being listed and fueling facilities mapped, both in fixed locations and mobile units.

"This Committee is also making a study of the population distribution of the various wards of the city, in relationship to private automobile ownership. This has been completed to the point where the Committee knows which wards have a surplus of private automobiles for transportation and which wards do not. Crowded population centers have the least cars, and a proper distribution and allocation of equipment to areas where they will be needed is most urgent.

"As soon as this work is completed, loading zones or depots will be designated at strategic points throughout the city, and the civilian population will be advised in detail what their obligations are and what they will be expected to do, should evacuation become necessary."

SINGAPORE ??? lost her water supply

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NEWTON UPPER FALLS MASSACHUSETTS

All the Cities Are in the War

Great is the United States and vast the distances between many of its cities. But when the enemy is two, four, ten thousand miles outside the country, there is little to choose in the matter of mileage between one city and others for such practical purposes as planning air raids.

To the Japanese staff in Hongkong, San Francisco's 8,746 miles is not vitally different from the 9,750 miles to Chicago. From Manila the distances are 7,988 and 8,750 respectively. Such flights, of course, require intermediate bases. From Wake Island to Honolulu, it is 2,489 and thence to San Francisco, 2,410—within striking distance, though the bombers could not return.

To the Nazis, it is 3,437 miles from Lisbon to New York; 1,870 miles from Dakar to Natal, Brazil, and 4,040 thence to New York. Getting closer to business, an airplane carrier a hundred miles off Cape Hatteras is, by dive bomber at 300 miles per hour, an hour from Washington, 1½ hours from New York, 2½ hours from Detroit, 2 hours from Cincinnati, 2¾ hours from Chicago, 3 hours from St. Louis, 3½ hours from Kansas City, and 2 hours from Atlanta.

That is why all cities on the coasts or harboring war industries want to know the right type of air raid signal to install, how to black out adequately, what kind and how much fire apparatus, hand fire pumps, and rescue equipment they should purchase.

Indications are that city officials are not depending for any safety on their remoteness from the coasts. Any mileage divided by four or five hundred miles per hour equals a very short time.

Civilian Defense Need Not Lag

The *Fire Chief's News Letter* for February is headed "Civilian Defense Lags." If this is the case, the reason is pretty plain: Nobody knows just what to do. "If danger of aerial incendiary attack is as near as authorities at Washington would have us believe," says the *Letter*, "vital time is being lost in preparation against such a possibility."

Are there going to be aerial attacks in this country? Nobody will know until they come. Everybody knows they could happen, and this ought to be enough to compel precautionary measures.

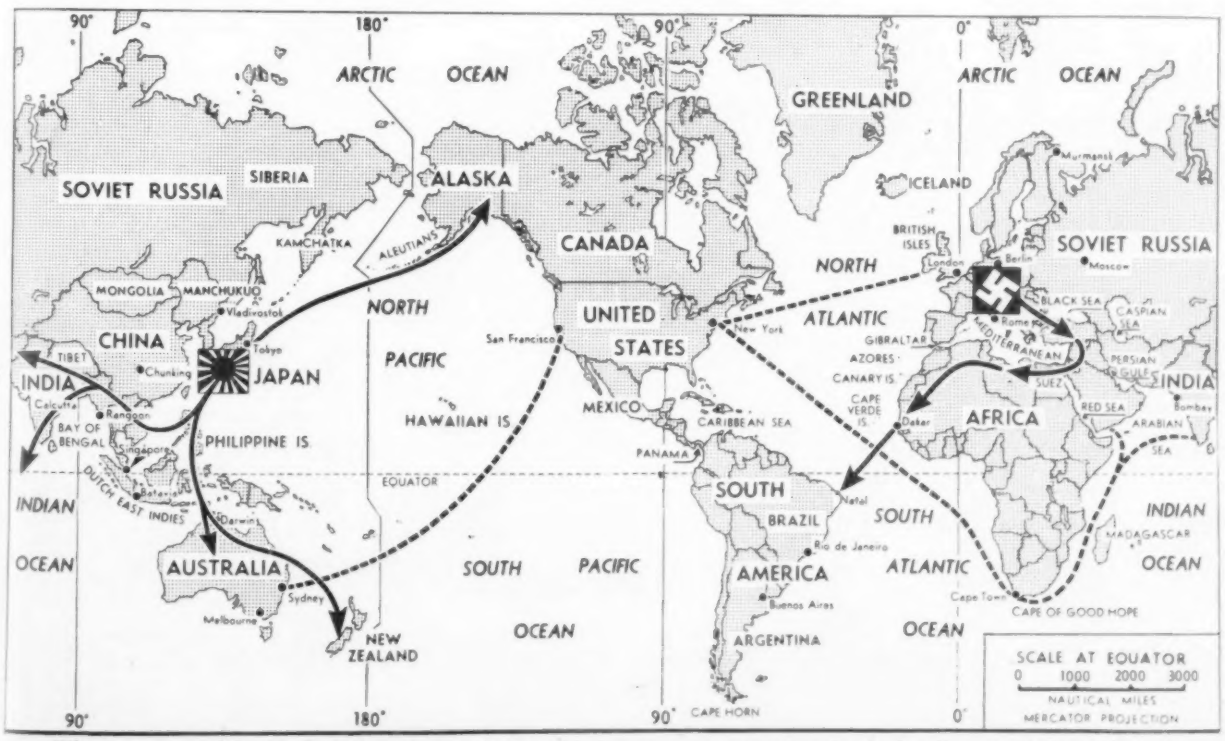
One of the simpler "musts" in a coast or industrial city is for an air raid siren. Manufacturers of these devices deserve credit for publicizing what they have, recognizing their limitations, and in instances undertaking the design of signals specifically to meet air raid requirements. Cities at all subject to bombing can obtain sirens and signals at once. Many of them are doing this and the others should find out what is suitable and available without delay.

There is no use to wonder why Pearl Harbor was not prepared, if the cities are still in a maze. As a worthy example to the Army and Navy, the fire departments and the police departments of every exposed city should shake hands and sit down and, if they haven't enough protection, start writing orders for such essentials as air raid signals, relays for extinguishing street lights en masse, and fire fighting and rescue equipment. Whether or not all the orders are filled promptly, the city at least will have a record of positive action.

All-Out Street Lighting Control Tested

The system of control which turns off all street lamps, traffic lights, electric signs, and other devices, as outlined on page 97 of THE AMERICAN CITY for January, was tested at Freehold, N. J., under practical conditions on February 27 by the Jersey Central Power and Light Co. The results are said to have been so satisfactory that a public test will be held on March 17.

Municipal officials desiring to attend should write to Paul J. Lazard, Defense Control Systems of America, Inc., 11 Broadway, New York City.



Where we are and how it looks from here and there; black arrows are conquest routes, broken lines are U. S. supply routes

Each man with an INDIAN FIRE PUMP operates independently whereas 3 or 4 are needed for the stirrup pump—one to handle nozzle, one to pump and one or more to carry water. Large leak proof tank of the INDIAN holds 5 gals.

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Long distance spray from an *INDIAN FIRE PUMP* quickly cools incendiary bombs and wets down surrounding area restricting spread of fire. Slight turn of adjustable bomb nozzle throws powerful straight stream for general fire-fighting purposes. Equip now with these famous extinguishers. Civilian Defense demands adequate Fire Protection. *INDIAN FIRE PUMPS* are the city's best answer to this vital problem. *Be prepared! The enemy will give no warning.*

"London reported as many as 530 fires breaking out in the city at the same time. Because of the spread and necessity of immediate attack on these fires, we must greatly increase our fire-fighting equipment."

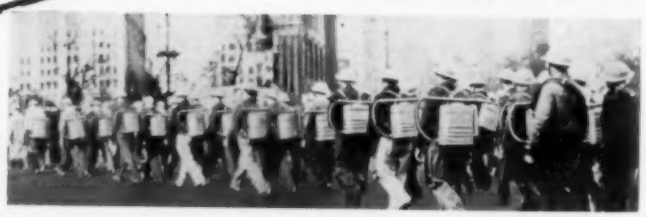
F. H. La Guardia
U. S. Director
Civilian Defense

Tanks are curved in shape to fit the back. May be kept filled indefinitely without rust or corrosion. Entire outfit is strongly built for long, hard usage.

FIGHT INCENDIARY BOMBS with INDIAN Fire Pumps

USA LET'S GO! Send For Catalog

(Below): Long line of Air Raid Wardens, each with an *INDIAN FIRE PUMP*, parade during Defense turnout in a coastal city. Thousands of *INDIANS* stand guard throughout the nation.



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Klamath Falls, Ore.

One-Man Pumps Extinguish Bombs

THE extent to which bombing of cities is taking place in the numerous theatres of war is probably known to no one. The fact that London has been given a rest from the horrors may seem to indicate that such bombings give no ultimate military advantage to the bombers—possibly the reverse.

Obviously, however, there is no such discriminating thought. Cities are still bombed wherever the war is active. Darwin, Australia, received a heavier blitzing recently than the previous records made in London where as many as 530 fires were burning at one time. Any such collection of conflagrations calls for mass effort at extinguishment, including householders and their neighbors as well as the regular and auxiliary fire services.

The obvious civilian extinguisher is the hand fire pump. The most familiar pump of this type in America is the one demonstrated in the accompanying photographs. Long used by municipal fire departments for fighting fires in homes, factories, schools, and in brush and forest, it is also effective in extinguishing incendiary bombs which, burning at 3,300 degrees, go through wood or iron like an acetylene torch. It comes with a bomb nozzle which sprays the bomb cool and wets down the surrounding area. Always use a spray on a bomb—never a stream of water. A slight turn of this nozzle provides a straight stream of 30 to 50 feet. Only one person is needed to operate the pump, and a decided advantage is that the user has his arms free for climbing ladders and dodging trouble.

An increasingly large number of cities throughout the country are equipping with this type of fire fighting unit. Among them are Philadelphia, New York, Washington, Baltimore, Cleveland, and Atlanta.

Paints for Cities at War and Peace

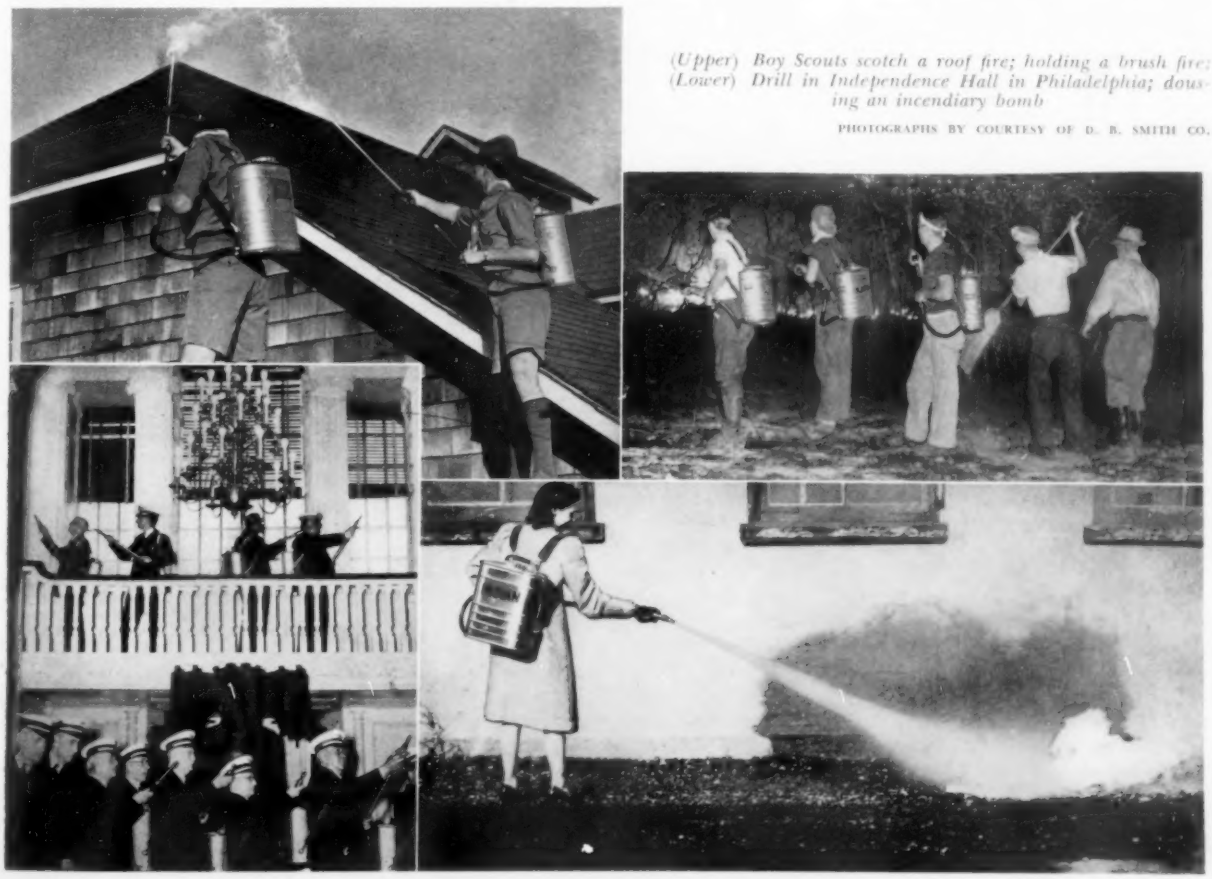
There has not as yet been any demand for blackout paints from the territory which we serve. We have, however, prepared for this possibility by formulating two types: (1) a low-cost water-base paint for application to the inside of windows; and (2) a rubber-like, flat, opaque paint for the exterior surface of the glass. Both paints are flat, extremely opaque to light, and easily removable.

Our company does a tremendous business throughout the Northwest with power plants, light and gas companies, sewage-disposal plants, and countless city governments for their requirements of traffic, equipment, implement, and maintenance paints.

For swimming pools we recommend our concrete and stucco paint carried in a full line of colors.

Some miscellaneous paints worthy of mention are S9279 Gray General Purpose Enamel for equipment and machinery in sewage-treatment plants, S5541 Lamp Standard Green, No. 777 Bright Red, and 773 Bright Green for exterior use on wood or metal.

P. S. Eddy,
Chief Chemist, Minesota Linseed Oil Paint Co., Minneapolis, Minn.



(Upper) Boy Scouts scotch a roof fire; holding a brush fire;
(Lower) Drill in Independence Hall in Philadelphia; dousing an incendiary bomb

PHOTOGRAPHS BY COURTESY OF D. B. SMITH CO.

Sabotage of Municipal Facilities

By Edward Scheidt
Special Agent in Charge, Federal Bureau of Investigation

• • • —

THE word sabotage is derived from the French word "sabot" meaning "wooden shoe." It is reported that many years ago French peasants having grievances against land owners would use these wooden shoes in trampling upon growing grain or they might hurl them into machinery, placing it out of commission. Sabotage may be perpetrated in innumerable ways and, in fact, the various methods by which it can be accomplished are limited only by the ingenuity of the saboteur. Reference works on the subject describe as instances of sabotage the acts of disgruntled employees of commercial concerns in telling prospective customers the exact truth relative to merchandise offered for sale. The practice of certain railway employees in France in a former generation of punctiliously observing rules and regulations pertaining to travelers, thereby taking up a great deal of time and delaying traffic in rush hours, has also been labeled as sabotage. Today, however, when we think of sabotage, we have primarily in mind the malicious destruction of property usually for the benefit of a foreign power or to the detriment of our own government.

Organized sabotage committed on a systematic basis is probably not as old in history as is espionage. There were some instances of sabotage during the War between the States. To a greater extent, it was practiced in the Franco-Prussian War of 1870. It was not until World War I, however, that sabotage began to assume major proportions. The actions of saboteurs in the United States in that conflict cost many lives and millions of dollars in damages. As a result of the experiences of the last war, the grave dangers presented by the problem of sabotage are well recognized.

Possible Methods

While it is almost impossible to predict the various methods by which sabotage may be employed, the most likely possibilities include arson, the use of bombs or explosives, and mechanical sabotage. The latter term in itself will embrace a vast field of activity; for example, employing acids or other chemicals or liquids to damage machines or materials. The introduction of any solid foreign material such as powdered glass, sand, or other abrasive can ruin or seriously damage bearings or lubrication systems. Closing valves when they should remain open, loosening flywheels, or otherwise tampering with machinery can result in equally disastrous consequences. To guard effectively against sabotage, all these possibilities must be considered.

There are in effect today numerous Federal Statutes which apply to sabotage. Of these, Sections 101-106, Title 50, United States Code Annotated, appears to be particularly applicable to water works and public utilities. This statute includes among its provisions penalties for the wilful injury to war utilities with reason to believe that this may interfere with the United States in carrying on the war. The definition of war utilities includes, among other things, dams, reservoirs, aqueducts, water mains, pipe structures, and buildings in connection with which water may be furnished to the military or naval forces. In addition to this and other Federal Statutes, there are, of course, various state laws also under which the malicious destruction of property might be prosecuted.

Any program to cope with sabotage must include both preventive work and thorough investigation of all situations where the commission of sabotage is indicated.

The Federal Bureau of Investigation has been very active for a number of years in both the prevention and detection of sabotage. As long ago as September, 1939, the President of the United States designated the FBI as the proper agency of the government to combat espionage, sabotage, and other activities affecting our internal security. These matters have been receiving intensive attention ever since. In connection with the FBI's preventive program, a confidential booklet entitled "Suggestions for the Protection of Industrial Facilities" was prepared some time ago and furnished to the management of vital industries and utilities. Additional copies of this publication are available and can be obtained by persons having a legitimate interest in its contents by communicating with the Charlotte (N. C.) Office of the Federal Bureau of Investigation.

To date, there has been no large scale systematic sabotage in the United States since the outbreak of the present war, but the possibility of sabotage is an ever present one and can be met only by continued vigilance and attention to the dangers as they exist or may arise. Officials connected with waterworks, public utilities, or private industries are urged to report immediately to the Federal Bureau of Investigation any instances of suspected sabotage in order that prompt investigation may be made.

—From an address delivered on Jan. 28 at a one-day Symposium on Protection of Public Water Supplies during Wartime, Raleigh, N. C.

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One Thought, One Hope, One Purpose

CLOSING words of an address by Mayor Stanley Lewis of Ottawa, Ontario, before the United States Conference of Mayors, January 12, 1942:

In an inspired moment, one of our Canadian Mayors, Mayor Elton of Lethbridge, Alberta, wrote a brief poem on Canadian-American relations. It is a simple poem, but it is crowded with a great deal of profound and sincere sentiment, and certainly expresses the feelings of our people toward yours:

'Tis but one land—America,
From Gulf to Baffin's Bay
We call our own land Canada,
You call yours, U. S. A.
But what are lands and countries,
And peoples, what are they,
When Freedom, Peace and Justice
Demand our thoughts today?
We speak the same dear mother tongue—
Our blood is your blood too;
The colors of our Nations' flags
The same—Red, White, and Blue.
Two flags—one race, one people;
Two Nations—yet the same;
One thought, one hope, one purpose—
One object—Win the Game!

Yes—win the game, this game that has become a ruthless and bloody war. But win it, not only for the preservation of our way of life, not only for the self-government of nations but, by the blessed grace of Almighty God, for the peace of the world and the brotherhood of man.

Prepared by
FRANK B. WILLIAMS
Author of "The Law of
City Planning and Zoning"

Zoning and Planning Notes

With the cooperation of
EDWARD M. BASSETT
Author of "Zoning" and of
"The Master Plan"

Esthetics—Preservation of Buildings Having Architectural and Historical Value

LOUISIANA.—*City of New Orleans* v. *Pergament*, Supreme Court, December 1, 1941, reported 5 So. 2d, 129.

Section 22A of the Constitution of the State of Louisiana, added to the constitution by act 139 of 1936, authorizes the appointment by the Mayor of the city of New Orleans, of the Vieux Carre Commission to consist of nine citizens of the city, one from a list of two persons recommended by the Louisiana Historical Society, one from a list of two persons recommended by the Curators of the Louisiana State Museum, one from a list of two persons recommended by the Association of Commerce of the city, three qualified architects recommended by the New Orleans Chapter of the American Institute of Architects, and three members to be appointed at large.

The Commission has for its purpose the preservation of such buildings in the Vieux Carre Section of the city as, in the opinion of the Commission, shall be deemed to have architectural and historical value, and which buildings should be preserved for the benefit of the people of the city and the state and to that end the Commission shall be given such powers and duties as the Commission Council of the city shall deem fit and necessary.

The preservation of the buildings in the Vieux Carre Section of the city having architectural and historical value, is declared to be a public purpose. It is further stipulated that hereafter, and for the public welfare and in order that the quaint and distinctive character of that section of the city may not be injuriously affected and in order that the value to the community of such buildings may not be impaired, and in order that a reasonable degree of control may be exercised over the architecture of private and semi-public buildings erected on or abutting the public streets in that section, whenever any application is made for a permit for the erection of any new building, or for alterations or additions to any existing building, any portion of which is to front on any public street in that section, the plans therefor, so far as they relate to the appearance, color, texture of materials, and architectural design of its exterior shall be submitted by the owner to the Vieux Carre Commission, and it shall report to the Commission Council of the City, with its recommendations, including such changes, if any as in its judgment are necessary, and the Commission Council shall take such actions as shall, in its judgment, effect reasonable compliance with such recommendations as to prevent any violation of them.

The Commission Council of the city is given power by ordinance or otherwise to carry the above constitutional provisions into effect, and accordingly passed an ordinance creating the Vieux Carre Commission, and forbidding the proprietor of any building in the Vieux Carre to maintain a display or advertising sign without first obtaining a permit from the Vieux Carre Commission. The maximum size of such a sign is fixed at 8 square feet if only one side is displayed or 16 square feet if both sides are displayed.

The defendant Pergament has a gasoline filling station in the Vieux Carre Section of the city, and was prosecuted for displaying a sign on his premises greatly in excess of the prescribed size without the permission of the Vieux Carre Commission.

The defendant pleaded that the only purpose of the constitutional amendment was to preserve the architectural and historical worth of the ancient buildings in Vieux Carre, and that his place of business, being a modern structure, having no architectural or historical worth, is not subject to the provisions of the constitutional amendment. He also pleaded that the ordinance if applied to him would be arbitrary, unreasonable, and oppressive, was not due process of law, and would deprive him of the equal protection of the law.

The Court overruled the defendant's contentions for the following reasons among others:

There is nothing arbitrary or discriminating in forbidding the proprietor of a modern building as well as the proprietor of one of the ancient landmarks in the Vieux Carre to display an unusually large sign upon his premises. The purpose of the ordinance is not only to preserve the old buildings themselves, but also to preserve the antiquity of this whole French and Spanish quarter against vandalism and barbarism. Prohibiting eyesores in such a locality is within the police power and within the scope of the municipal ordinance.

"The preservation of the Vieux Carre as it was originally is a benefit to the inhabitants of New Orleans generally, not only for the sentimental value of this show place but for its commercial value as well, because it attracts tourists and conventions to this city."

Editor's Note:

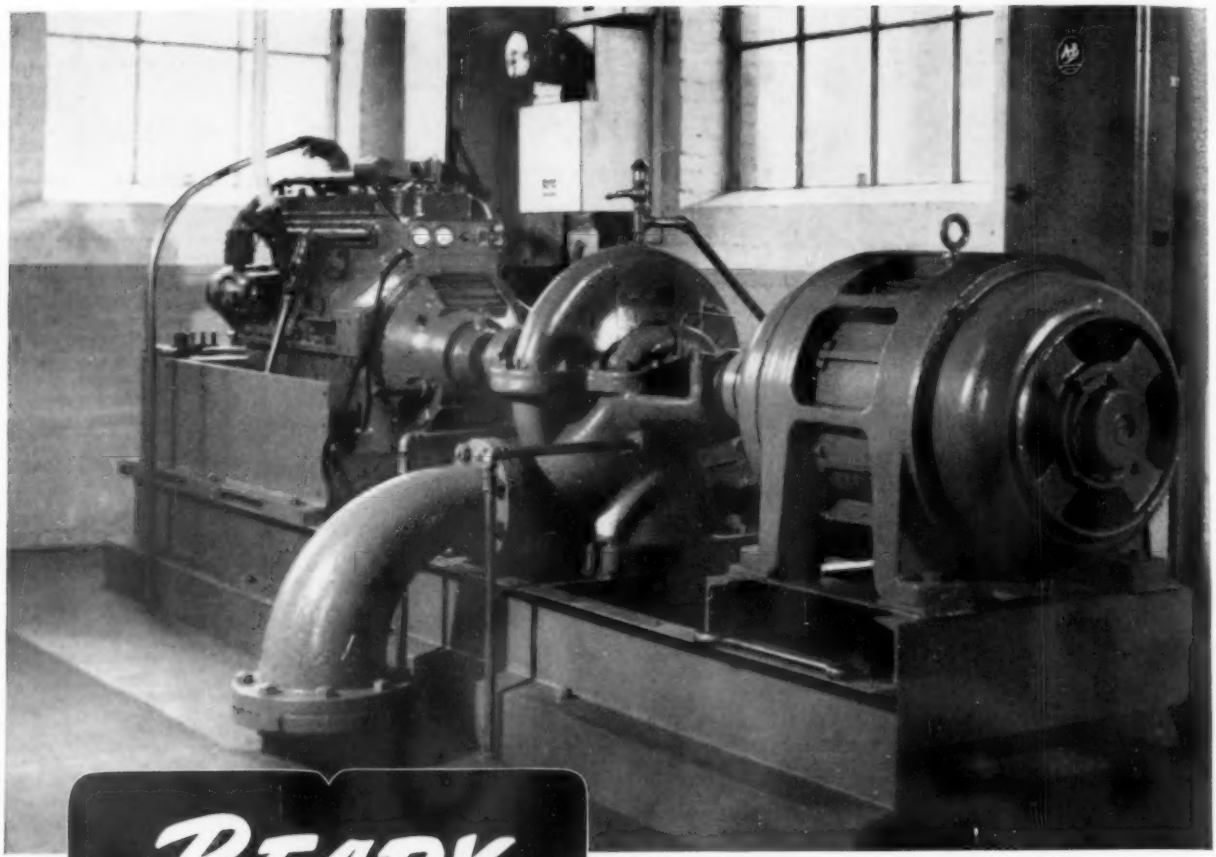
At this time when public sentiment is growing in favor of a greater measure of control of the landscape and of private buildings in public view, in order to prevent ugliness and promote beauty, the case reported above is of special importance. The reader will remember that in 1918 the Commonwealth of Massachusetts passed an amendment to its Constitution (Art. L) authorizing the regulation of outdoor advertising, and that in 1933 legislation and regulations under that amendment were sustained by the highest court in that state. (General Outdoor Advertising Co., Inc. v. Department of Public Works, 283 Mass. 139, 1933). Both the amendment of the constitution of the Commonwealth of Massachusetts for the control of outdoor advertising in that state and the amendment, given above, of the constitution of the state of Louisiana for the regulation of outdoor advertising and the appearance of private structures in public view in a small district in the city of New Orleans, are instances of the use of the police power for an esthetic purpose. The cases, in the courts of Massachusetts and of Louisiana, sustaining these provisions, are therefore similar in principle, both showing progress in this much needed movement. Whether the reform with regard to esthetic control should be by state constitutional amendment or by an effort to enlarge the police power by education and a strenuous defense of esthetics when challenged in the courts, is a matter of debate, many persons thinking that constitutional amendments are almost of necessity special and narrow in their scope, and more progress will be obtained by vigorous action without constitutional changes, in spite of the fact that it will be slower.

There has been no definitive or final action with regard to aesthetics by the Supreme Court of the United States; but most students of the subject are confident that when it does come, it will be favorable. See on this subject the writers' book, "The Law of City Planning and Zoning" (1922) p22.

Design Standards for Defense Housing

Detailed design standards for permanent Federal Works Agency defense housing construction were announced on February 18 by Assistant Federal Works Administrator Baird Snyder, III.

The publication covers site selection, survey requirements, site planning, dwelling design, structural design, heating, plumbing, electricity, site engineering, community facilities and landscaping. The standards are supplemented with detailed instructions to architects and contractors to assist them in the preparation of working drawings. The construction methods are designed to economize on the use of materials and field labor and speed construction.



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Municipal Law Notes and Decisions

Prepared by NATIONAL INSTITUTE OF MUNICIPAL LAW OFFICERS, WASHINGTON, D. C.
CHARLES S. RHYNE, Executive Director

"War Time" Daylight Saving

Model Ordinance for Adoption by Municipalities

THE approval of Public Law 403 of the 77th Congress moving the time ahead one hour as a war measure and the request of the President that such time be designated "War Time" have created technical legal problems for some cities. These problems arise by virtue of a decision of the Supreme Court of the United States, *Massachusetts State Grange* v. *Benton*, 272 U. S. 525, 47 Sup. Ct. 189, 71 L. ed. 387 (1926) that the federal time statute has legal effect only in so far as the business of the Federal Government and interstate commerce is concerned. The federal legislation establishing "Standard Time" is found in 40 Stat. 450-451 (1918) U. S. C. A. s 261-263 (1934). The full text of the amendment made by Public Law 403 is as follows:

AN ACT

To promote the national security and defense by establishing daylight saving time.

Be it enacted by the Senate and House of Representative of the United States of America in Congress assembled, That beginning at 2 o'clock antemeridian of the twentieth day after the date of enactment of this Act, the standard time of each zone established pursuant to the Act entitled "An Act to save daylight and to provide standard time for the United States," approved March 19, 1918, as amended, shall be advanced one hour.

Sec. 2. This Act shall cease to be in effect six months after the termination of the present war or at such earlier date as the Congress shall by concurrent resolution designate, and at 2 o'clock antemeridian of the last Sunday in the calendar month following the calendar month during which this Act ceases to be in effect the standard time of each zone shall be returned to the mean astronomical time of the degree of longitude governing the standard time for such zone as provided in such Act of March 19, 1918, as amended.

Approved, January 20, 1942.

Conclusions from a Comprehensive Report

The most comprehensive report ever prepared on the subject of adoption of "official time" by cities is that of Corporation Council *Edward H. Knight* of Indianapolis, Ind., in which he arrived at the conclusion that his city could adopt a "daylight savings time" ordinance. Mr. Knight's conclusions are as follows:

"*First.* The power of the Common Council to enact this (Daylight Savings) ordinance must be found in some provision of the statute wherein the legislature has delegated such power to the Council; but such power may be implied as well as expressed. There is no direct provision of the statute upon this subject, but by sections 10283 and 10284, clause Fifty-third, Burns R. S. 1926, very broad powers are conferred upon the Council to carry out objects of the municipality other than those particularly specified, so that under this clause, when applied to section 10283 which confers upon the Council power to pass all ordinances for the government of such city and for the control of its property, we conclude that the Council has power, by fair implication to regulate the official time of conducting its business in its various public buildings, unless this power is otherwise controlled and limited by some statute.

"*Second.* It is well settled that neither the courts nor the executive branch of government either can or will pass upon the wisdom or expedience of a statute or ordinance, even though serious doubt of the latter be entertained. This rule is based upon the reason that where power exists in a legislative body to act, such power is exclusive and not subject to review, where the provisions of the constitution are not infringed.

"*Third.* There does not appear to be any statute or any decision of the higher courts in this state construing the time hours specified in any statute to mean standard time or sun time. Standard time in all federal matters and governing railroad service, was first adopted by the United States in 1883 and since that time has been generally observed in this state and city. In a number of other states sun time has governed local affairs instead of standard time, although the tendency in recent years has been to abandon such local time. Questions have arisen in various states upon whether standard or sun time governed a certain hour specified in a statute or a contract, when no specific standard of time had been adopted by statute, or was specified in the particular instance, and the decisions in various states have been in conflict upon whether standard or sun time governed in such instances."

Decisions Cited

In support of his conclusions, Mr. Knight states in part as follows:

"See articles on 'time' in Vol. 26 R.C.L. Sections 2 and 3 and 38 Cyc, p. 308; and annotations to cases in 1 L.R.A. (N.S.) 364 (Ky.) s. c. 9 Ann. Cas. 324; 6 L.R.A. (N.S.) 1046 (Tex.); 35 L.R.A. (N.S.) 611 (Utah), s. c. Ann. Cas. 1913 E. 61; 78 A.S.R. 364, 386 (La.).

"In some states standard time has been expressly adopted by statute to govern all matters of law and business within the state and in such instances daylight savings ordinances are invalid, in the absence of some other statute or constitutional provision which permits such ordinance as to purely local affairs. An example is the state of New Jersey. *Carroll* v. *Bayonne*, 99 N.JL. 493, 124 Atl. 613 (1924).

"In the State of Connecticut, the statute of 1921 expressly adopted standard time for the entire state and the statute of 1923 forbade clocks in public buildings or on streets to display any other than such standard time and prescribed a penalty for its violation. The latter statute was upheld in the following case. *State* v. *Bassett*, 100 Conn. 430, 123 Atl. 842 (1924).

"Notwithstanding the above statute, daylight savings time has been adopted in certain of the large cities of Connecticut by banks and certain classes of business, in accordance with an agreement to that effect.

"In the State of New York standard time has been adopted by statute applicable to the entire state, but an amendment to that statute in 1921 authorizes a variance during certain months of the year by any municipality that desires to adopt daylight savings time by ordinance and all courts and public offices and legal and official proceedings within such municipality shall be regulated by such ordinance notwithstanding the general statute. The amended statute has been upheld in the following case: *Briegel* v. *Day*, 202 App. Div. 484, 195 N. Y. Suppl. 295, App. Div. 236 N. Y. 646, 142 N. E. 318 (1922).

"In Massachusetts a statute has prescribed daylight savings time during certain months of the year and in the following recent case the United State Supreme Court held that such statute was not in conflict with the federal statute prescribing certaining standard time zones, but that the latter statute was limited solely to the conduct of federal business and the operation of interstate railroads. This case disposes of objections to the local ordinance that it is in conflict with the above federal statute. *Massachusetts State Grange* v. *Benton*, 272 U. S. 525, 47 Sup. Ct. 189, 71 L. ed. 387 (1926).

"In Ohio a statute adopts Central Standard Time for the state and provides that 'courts, banks, public officers and legal and official proceedings shall be regulated thereby; and when, by a law rule, order or process of any authority, created by or pursuant to law, an act must be performed at or within a prescribed time, it shall be so performed according to such standard of time.' The recently adopted constitution of Ohio contains what is called the Home Rule provision, being Sec. 3 of Article 18, and reads as follows:

> 'Municipalities shall be authorized to exercise all powers of local self-government and to adopt and enforce within their limits such local police, sanitary and other similar regulations, as are not in conflict with general laws.'

The City of Cincinnati adopted a daylight savings ordinance which conflicted with the above statute, but in the following case the Supreme Court of Ohio held that the aforesaid broad provision of the constitution authorized a municipality to fix, by ordinance, a time regulating the purely municipal affairs of the city having to do solely with the details of local government and the required acts of any Board or officer of the municipality and that such ordinance was valid for such restricted purposes, although the state statute governs and controls as to all matters except those having to do solely with local governmental action and procedure. *State* v. *City of Cincinnati*, 101 Ohio St. 354, 129 N. E. 595 (1920).

"After a careful study of the Ohio constitution and statute, as applied by the above decision to the Cincinnati Daylight Savings Ordinance, and applying the reasoning of the court to the Indiana constitutional statutes and decisions, we conclude that the local daylight savings ordinance is valid to the same extent and for the same purposes that were applied by the above Ohio case. We reach this conclusion by considering the statutes first cited in this opinion which confer on municipal common councils very broad delegated powers, similar to what are generally known in other states as 'general welfare powers.' Our Supreme

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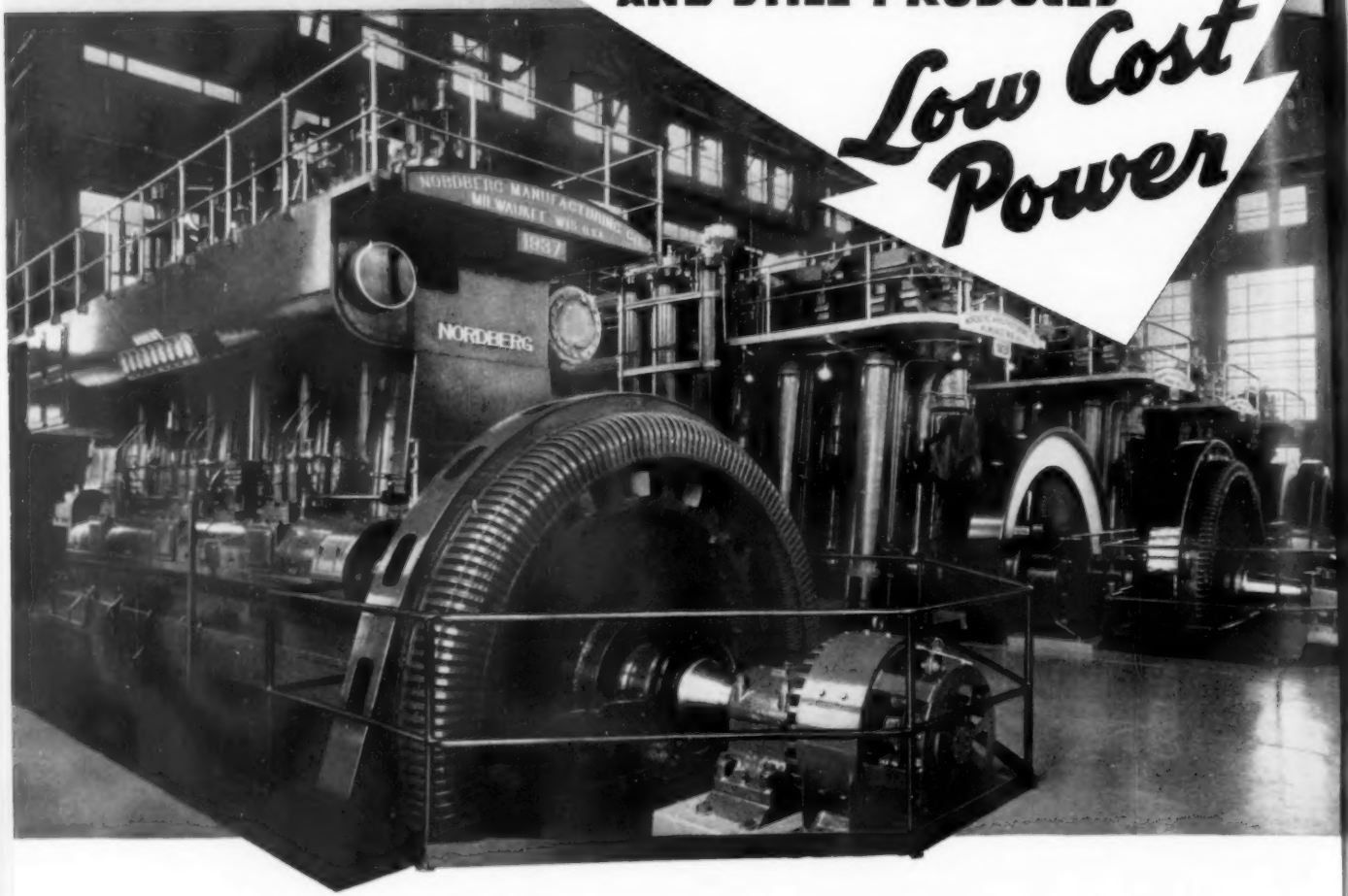

THE FIRST Nordberg Diesel Engine installed in the Municipal Plant at Ponca City, Oklahoma, has been in service since 1924 and still carries its share of the load. In eighteen years, this 1250 horsepower unit has generated 44,148,070 K. W. hours. This engine has been burning heavy fuel oil of 8 to 10 gravity during practically this entire period, yet repairs and maintenance have been less than 50 cents per horsepower per year. The original main bearings and piston skirts are still in use and so are three of the original piston heads.

There are five Nordberg Diesels now in the Ponca City Plant; four of 1250 horsepower and one of 2250. The economical and dependable performance of these engines have won for Ponca City nation-wide recognition as one of the few tax-free cities in the country. For the past twelve years, the average total operating cost is only $.00417 per K. W. hour, making this one of the lowest Diesel power cost producers.

Because of the excellent service given by Nordberg Diesels, users continue to place repeat orders when additional equipment is needed. The satisfactory performance at Ponca City, which is typical of other plants where Nordberg Diesels are installed, is best expressed by the following statement of Plant Superintendent Pat Schlesinger:

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Court has held in the series of leading cases cited hereunder that municipalities in this state possess certain inherent powers of local self-government that were not surrendered upon the adoption of the constitution, but which remains vested in them and cannot be taken away by the legislature. While the decisions related to an attempt by the legislature to have certain public officials appointed by the governor instead of being selected by the municipality, the principles discussed in these cases clearly uphold the right of municipalities, not only to appoint their own officials, but to regulate all their local affairs, subject only to the general laws of the state which affect all the people of the state alike and which adopt a general rule for the entire state."

State and Municipal Action

The Maine and Massachusetts Legislatures have advanced standard time one hour in their respective states to conform to Public Law 403. In Wisconsin a statute adopted in 1923 requires all state, county and village governments and all places of business to "show only the time of the sun at the 90th meridian." It is reported that the Attorney General of Wisconsin has asked district attorneys to refrain from prosecuting persons who set their clocks ahead one hour to conform to the new Federal "War Time." Where state legislation merely requires the use of "standard" time, the new war time will probably be considered as such, "standard" time and no new legislation will be required.

For those city attorneys who must recommend ordinance revision, the following suggested form has been prepared:

MODEL ORDINANCE ON WAR TIME
Prepared by the
NATIONAL INSTITUTE OF MUNICIPAL LAW OFFICERS

An Ordinance Prescribing War Time, Repealing Ordinances in Conflict Therewith and Declaring an Emergency.

WHEREAS, The President of the United States on January 20, 1942, approved Public Law 403 of the 77th Congress advancing the standard time of each time zone one hour for the duration of the present War and for six months thereafter; and

WHEREAS, The President in approving Public Law 403 requested that the new time be designated as "War Time"; and

WHEREAS, The City of ———— wishes to cooperate with the Federal government in the war program by making all helpful changes in existing ordinances and methods of business; and

WHEREAS, The efficient transaction of the government of the City of————makes it necessary that all time requirements prescribed by ordinance, rule, or regulation be changed so as to conform to the new "War Time" established by Public Law 403, now therefore,

Be it ordained by the Council of the City of . . . . . :

SECTION 1. OFFICIAL TIME PRESCRIBED ———— Standard (Eastern Central, Mountain, or Pacific) ard time, as established by Public Law 403 of the 77th Congress of the United States, shall be the official time within the City of . . . for the transaction of all city business. All legal or official proceedings of the City Council and all official business of the city shall be regulated as to time in accordance with the provisions of this section. When, by ordinance, resolution, or action of any municipal officer or body, an act must be performed at or within a prescribed time, it shall be performed according to the official time as herein prescribed.

SECTION 2. PUBLIC CLOCKS TO USE OFFICIAL TIME. All clocks or other timepieces in or upon public buildings or other premises maintained at the expense of the City shall be set and run according to the official time as provided in Section .. It is hereby made the duty of the officer or other person having control and charge of such building or buildings and premises to see that said clocks or other time pieces are set and run in accordance with official time.

SECTION 3. OFFICIAL TIME TO BE DESIGNATED "WAR TIME." Official time of the City of ———— as prescribed in Section 1 hereof shall be designated as ———— (Eastern, Central, Mountain, or Pacific) War Time in all official use by officers and employees of the City of .

SECTION 4. REPEAL OF CONFLICTING ORDINANCES, ORDERS, RULES AND REGULATIONS. All existing ordinances, orders, rules and regulations of the City of ate hereby repealed insofar as they may be inconsistent with the provisions of this ordinance.

SECTION 5. SEPARABILITY OF PROVISIONS. It is the intention of the City Council that each separate provision of this Ordinance shall be deemed independent of all other provisions herein, and it is further the intention of the City Council that if any provision of this Ordinance be declared to be invalid, all other provisions thereof shall remain valid and enforceable.

SECTION 6. FINDING OF EMERGENCY. This Ordinance is passed as an emergency measure and the Council does by the vote by which this Ordinance is passed, hereby declare that confusion and uncertainty caused by the provisions of Public Law 403 of the 77th Congress make it necessary that this Ordinance be effective immediately.

Adopted this . . . day of . . . ., 194

Municipal and Civic Publications

Please mention THE AMERICAN CITY when ordering

Water Purification

Water Purification for Plant Operators.—By George D. Norcom, Consulting Sanitary Engineer and Chemist, New York City, and Kenneth W. Brown, Sanitary Engineer, California Water Service Co., San Jose, California. McGraw-Hill Book Company, Inc., New York City. 1942. 180 *pp.* $2.50 *from* THE AMERICAN CITY.

This book thoroughly discusses the basic problems to be handled by filter plant operators. Intending to be a handbook for the experienced operator, it nevertheless presents the material so that the inexperienced operator also will have no difficulty in understanding it. The book presents in a readable manner not only the biological and chemical processes that are involved, but also practical operating procedure, including recommended report forms and operating records. Discussion covers only the generally recognized filter-plant processes. There is no effort to cover water purification by ozone treatment.

Amebic Dysentery

Viability and Destruction of the Cysts of Endameba Histolytica.—By S. L. Chang, Research Fellow, School of Engineering, and Gordon M. Fair, Professor of Sanitary Engineering, Harvard University, Cambridge, Mass. Reprinted from the Journal of the American Water Works Assn., Oct., 1941. *Apply to the School of Engineering. Ten pp.* 10c.

A scholarly and informative treatment of the very real problem of prevention of amebic dysentery. Probably not readily understandable by the layman, it should be found a valuable addition to the references of the sanitary authorities that will be coping with this problem.

Street Construction

Symposium on New Methods for Particle Size Determination in the Subsieve Range.—Papers presented at the Washington Spring Meeting, American Society for Testing Materials, 260 S. Broad St., Philadelphia, Pa. 1942. *v* + 110 *pp.* $1.25.

Eight technical papers by leaders in the field covering new methods for particle-size determinations primarily in the subsieve range. Valuable to engineers and laboratory technicians.

Traffic Accidents in Wartime

Engineering in the Traffic Accident Emergency.—Committee on Traffic Safety Engineering, National Safety Council, 20 N. Wacker Drive, Chicago, Ill. 1942. 11 *pp.*

A program of practical measures for reducing accidents, with particular reference to conditions and needs caused by defense activity.

Home Guard Defense

The Home Guard Training Manual.—Edited by John Langdon-Davies, War Correspondent. Revised by General Sir A. Godley. Chemical Publishing Co., Inc., Brooklyn, N. Y. First American Edition. 1942. 182 *pp.* $2.50 *from* THE AMERICAN CITY.

A tersely written handbook describing the functions of the Home Guard and its methods of defense in case of invasion, including: Fieldcraft; Observation and Messages; Obstruction and Demolition; Rifles and Rifle Shooting; Automatic Weapons; Hand Grenades; Village Defense and Street Fighting; Anti-tank; Night Training; Anti-Aircraft; Gas and the Home Guard; Discipline and Drill. Written for the British Home Guard, much of the book is applicable to the American situation.

Water Purification

Selected Papers from the Fifteenth Annual Conference on Water Purification, in Joint Session with the West Virginia Section, American Water Works Association, Oct. 24, 25 and 26, 1940, Huntington, W. Va.—Edited by J. B. Harrington and H. W. Speiden. The Engineering Experiment Station, West Virginia University, Morgantown, W. Va. 1941. 120 *pp.*

Twenty-one papers, with illustrations, on various phases of water purification.

Water Softening

Census of U. S. Municipal Water Softening Plants.—By H. M. Olson. Reprinted from the Journal of the American Water Works Association, Vol. 33, No. 12, Dec., 1941. *Apply to The Ohio Salt Co., Wadsworth, Ohio.*

Summary statement and data on municipal water-softening plants in the country in relation to ownership, supply, plant, costs, type of treatment, capacity, distribution, and population served.

City Administration Text

Municipal Administration.—By Stuart A. MacCorkle, Professor of Government and Director of the Bureau of Municipal Research, The University of Texas. Prentice-Hall, Inc., New York. 1942. *viii* + 406 *pp.* $1.40 *from* THE AMERICAN CITY.

A live treatment of municipal administration, with emphasis on the tools of management, and confined chiefly to a discussion of city departments and agencies most concerned with the controls of administration. Unusual organization divides the subject matter into five main parts: A Background of Theory; Municipal Administrative Practices; Auxiliary Services; Major Purpose Functions; and Public Relations.

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PHILADELPHIA

Sanitation

Modern Sanitary Engineering—by G. Eric Mitchell. Chemical Publishing Co., Inc., Brooklyn, N. Y. 1942. 169 *pp.* $5.00 *from* THE AMERICAN CITY.

This book, based to a large extent on British practice, discusses only such sanitary engineering as is involved in the actual connections to buildings, farms, and estates. No effort has been made to discuss sewage treatment processes. There are some discussions on modern sanitary regulations taken from British Bylaws.

Fire Prevention

Pioneers of Progress.—National Board of Fire Underwriters, 85 John St., New York. 1942. 166 *pp.*

A 75th anniversary volume of the National Board of Fire Underwriters, telling of the work and achievements of the Board from its founding in 1866 to 1941; and giving testimonials to its contributions to national life by leaders in various fields. Tables of statistics on fires for the 75-year period constitute one chapter of the book.

National Recreation Plan

A Study of the Park and Recreation Problem of the United States.—National Park Service, U. S. Department of the Interior. Apply to Supt. of Documents, Washington, D. C. 1941. *xi* + 279 *pp.* $1.25.

Intended to aid in the coordination of recreation land planning among all federal, state, and local agencies, this very effective over-all report of the country's recreational facilities is based partly on preliminary studies made by 34 states under the Park, Parkway, and Recreation Study Act of 1936. It reviews present facilities and needs and the administrative, financial and legal aspects of the national recreation problem; and outlines the requirements of a park and recreational land plan for the country.

Planning and Zoning Legislation

State Legislation on Planning, Zoning and Platting.—National Resources Planning Board, Washington, D. C. Circular XII (Revised), 1941. *vi* + 79 *pp., mimeo.*

As a guide to the adoption of more adequate legislation, particularly for the control of new developments in defense areas, this report presents abstracts of state enabling laws for planning, zoning, and platting. A summary statement, chart, and maps give a picture of the extent of such legislation over the country.

State Publications

Monthly Checklist of State Publications.—Division of Documents, The Library of Congress. About 500 pp. 15c, single copy; $1.50 per year; sample copy sent on request.

A monthly checklist of reports, bulletins, monographs, proclamations, broadsides, court briefs, posters, maps, etc., issued by state legislative bodies, executive departments, boards, commissions, state institutions, universities and colleges, and other agencies supported or subsidized wholly or in part with state funds; and containing information on legislative, administrative, technological, scientific and popular subjects, etc.

Industrial Promotion

Community Self-Appraisal—A Vital Step in the Pennsylvania Production Plan.—Reprinted from the Sept.-Oct., 1941, issue of Pennsylvania Planning. 8 *pp.*

Brief, clear statement of steps to be taken in community industrial promotion, with a suggested questionnaire for community self-analysis.

Chicago Population

Population Facts for Planning Chicago.—The Chicago Plan Commission, 20 N. Wacker Drive, Chicago, Ill. 1942. 32 *pp.*

A live, readable, entertainingly illustrated presentation of population trends, composition, and distribution in the Chicago area.

Post-War Planning

After the War—Full Employment.—National Resources Planning Board, Washington, D. C. 1942. 19 *pp.*

The second in a series of pamphlets on post-war planning issued by the Board, the first in the series being "After Defense—What?" This one consists of a clear-cut, non-technical analysis of the factors involved in the post-war economy and of the possibilities of a post-war depression feared by so many people; and presents a recommended point-by-point program to retain prosperity and full employment.

Local Planning for PWR

New England Planning Bulletin—Jan., 1942.—New England Regional Planning Commission, 2100 Federal Building, Boston, Mass. 11 *pp., mimeo.*

This issue of the Bulletin consists of three articles on local programming for the Public Work Reserve: The Local Planning Board's Part in the Public Works Programming for the Public Work Reserve, by Arthur C. Comey; Long-Range Programming and the Public Work Reserve, by Paul V. T. Hedden; and A Topical Outline for Public Works Programming and Capital Budgeting, by William Stanley Parker.

Local Planning Survey

Local Planning Activity in the United States.—The Bureau of Urban Research, Princeton University, Princeton, N. J. iv + 22 *pp.* 25c, *limited supply.*

A summary picture of local planning in the United States, based on information collected by the National Resources Planning Board. Urban and rural planning agencies, their funds and activities, are examined; trends in local planning, indicated; and the local planning situation, evaluated, with recommendations.

Planning Manual

Communities for Living.—Prepared for the Advisory Panel on Regional Materials of Instruction for the Tennessee Valley, by F. Stuart Chapin, Jr., Department of Regional Studies, Tennessee Valley Authority, in collaboration with Sam Schiller, Instructor in Education, University of Georgia. The University of Georgia Press, Athens, Georgia. 1941. *ix* + 56 *pp.* $40c.

A practical, well organized, and attractively arranged discussion of the elements and principles of community planning, for classroom and citizen use. It covers the way in which towns grow; neighborhood patterns, industrial and shopping centers, schools, and recreation areas; streets and transportation; water and sewerage systems, garbage disposal, and utilities; beauty in the community; city and country; and machinery for action. A List of Suggested Questions accompanies the booklet. See p. 44-5 of this issue of THE AMERICAN CITY.

Urban Tax-Reverted Lands

Urban Land-Use Programming in Northern Michigan.—By Mark W. Alger. Report on a Special Field Project Undertaken by the Michigan Municipal League, The Michigan Department of Conservation, with the Assistance of the American Municipal Association and the State Board of Control for Vocational Education. Information Bulletin No. 40, Michigan Municipal League, Ann Arbor, Mich. 1941. 39 *pp., photo offset.*

Report of a project which assisted cities and villages in northern Michigan to become familiar with the state-owned lands within their boundaries, to study the procedures through which such ownership occurred, and to make recommendations intelligently for disposition and utilization of such lands.

Economy Legislation Proposals

Economy Manual for Legislation on State and Local Government.—Citizens Bureau of Governmental Research, Inc., 180 State St., Albany, N. Y. 1942. 63 *pp.*

A comprehensive catalog of proposals of various organizations and studies for legislation to effect economies in state and municipal government in New York.

Wartime Bibliography

Social and Economic Problems Arising Out of World War II: A Bibliography.—Compiled by Dorothy Campbell Tompkins, Research Assistant, Bureau of Public Administration, University of California. Publication No. 80, Public Administration Service, Chicago, Ill. 1941. *vii* + 114 *pp.* $1.50.

A cross-section of materials on social and economic problems arising out of World War II, selected from materials published in English from September 1939 to July 1941, and with the purpose of presenting a broad survey of the subject.

Mass Communication in Wartime

Print, Radio, and Film in a Democracy.—Edited with an Introduction by Douglas Waples. The University of Chicago Press, Chicago, Ill. 1942. $2.00 *from* THE AMERICAN CITY.

Ten papers on the administration of mass communications in the public interest, delivered by men engaged in communications research, at the Sixth Annual Institute of the Graduate Library School of the University of Chicago, in August. They take up four main topics: government policy in mass communications; the effects of print, radio, and film on public opinion; the implications of communications for social science; and their implications for institutions.

War Housing by Rehabilitation

The Rehabilitation of Southwest Washington as a War Housing Measure—A Memorandum to The Federal Home Loan Bank Board, by Arthur Goodwillie, Director of Conservation Service, Home Owners' Loan Corporation, Washington, D. C. 1942. 60 *pp., photo offset.*

A statement of the possibilities of supplying needed war housing by rehabilitation of existing dwellings, with a report of a detailed demonstration study for rehabilitation of a 9-block area in the southwestern part of the city of Washington. See p. 37 of this issue of THE AMERICAN CITY.

Urban Blight and Redevelopment

Urban Blight.—Governmental Research Association, 5135 Cass Ave., Detroit, Mich. 1942. 16 *pp., photo offset.*

Three papers presented at the Thirtieth Conference of the Governmental Research Association, held at Princeton, N. J., Sept., 1941: Economic Costs of Slums and Blighted Areas, by Mabel L. Walker, Director, Tax Institute; Planning To Prevent Urban Blight, by Russell Van Nest Black, Consultant, Pennsylvania State Planning Commission; and Reconstruction of Blighted Areas, by Fred H. Allen, Bowery Savings Bank, New York City.

The Problem of Urban Redevelopment.—By Earle S. Draper, Assistant Administrator, Federal Housing Administration. Reprinted from the Insured Mortgage Portfolio, Fourth Quarter. 1941. 7 *pp.*

A review of the elements involved in the phenomenon of urban blight, and the local and federal governmental changes necessary to affect redevelopment.

Proposals for Downtown Philadelphia.—By Richard J. Seltzer for The Urban Land Institute, 22 W. Monroe St., Chicago, Ill. 1942. 48 *pp.*

The fifth in the series of "decentralization" studies being made in principal United States cities by the Urban Land Institute, this report analyzes the possible causes of the decay of the central business district in Philadelphia, with proposals for remedying each cause. Much of the report is presented in table and graph form.

Municipal Authorities

Municipal Authorities in Pennsylvania.—Pennsylvania Government Administration Service, 34 Blanchard Hall, Philadelphia, Penn. 1941. *iv.* + 32 *pp., photo offset.*

A discussion of the purposes, structure, and powers of municipal authorities; a consideration of the legal aspects, and a survey of the types, purposes, and finances of such authorities in Pennsylvania.

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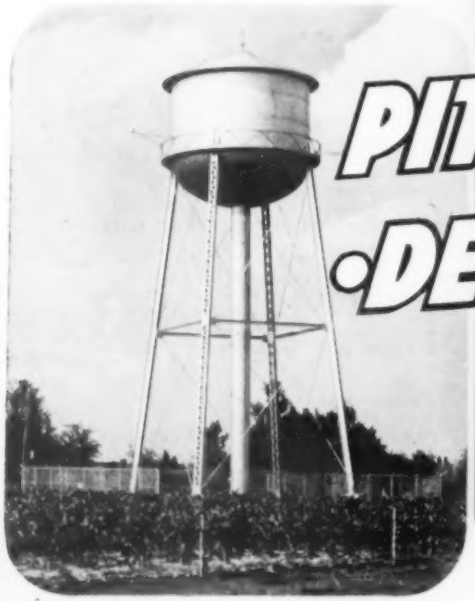

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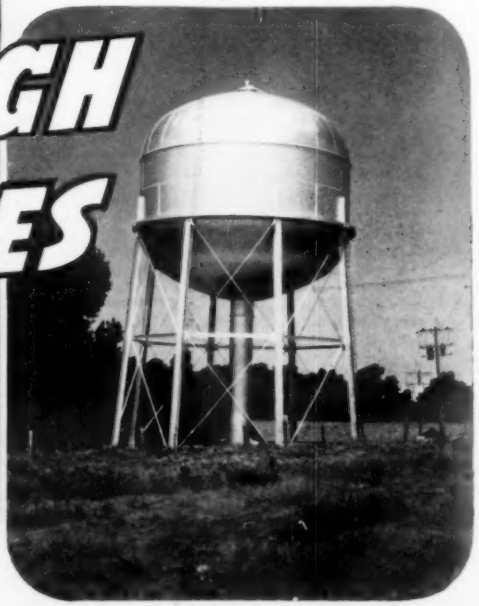

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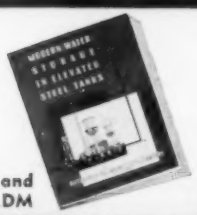

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Municipal Law

Cases and Materials on Municipal Corporations.—By Charles W. Tooke, Professor of Law, New York University, and John A. McIntire, Associate Professor of Law, George Washington University. The Foundation Press, Inc., Chicago, Ill. Third Edition, 1942. xliii. 843 pp. $6.50 from THE AMERICAN CITY.

Textbook covering more than 200 principal legal cases on municipal corporations, with explanatory notes containing commentaries and additional related cases. Maintaining a balance between current and historical material, the book includes topics which have grown in importance during the period of revolutionary change in public law from 1931 to 1941—phases of municipal law having to do with federal-city relations; parking meters and parking control; civil liberties; regulation of economic matters; housing; airports; civil service, etc.

New York Highways

Progress on Regional Highway System and a Program for Future Development.—Dec. 30, 1941, issue of Regional Plan Bulletin, *published by the Regional Plan Association, Inc., 400 Madison Ave., New York. 16 pp. 25c.*

A review of the growth of highways in the New York region—circumferential, inner, and radial routes, and expressways; and a highway program for the future, particularly as part of a post-war public-works program.

Defense Recreation

Home Again—Family Fun in Home Defense. National Recreation Association, 315 Fourth Ave., New York. 15 pp., mimeo. 15c.

Simple games, craft activities, and kitchen projects, for families kept at home during backouts or by decreasing use of cars, with explanations and diagrams.

Citizen Library Survey

The Pennsylvania Economy League Surveys the Butler Public Library.—Pennsylvania Economy League, Inc., Community Building, Butler, Pa. 1941. 44+xxxviii pp., mimeo.

One of the few non-professional surveys of a library, this one traces the library's history, organization, and source of income; evaluates its effectiveness in serving the community; measures its operating efficiency; and makes recommendations for the future. Trends are pointed out and comparisons are made with other libraries.

Art Museums

Survey of Art Institutes and Art Museums.—By the Municipal Reference Library, City Hall, Milwaukee, Wis. 1942. 28 pp., mimeo. 25c, limited supply.

A survey of the historical background and development, management, financial support, degree of public and private control, and activities of the art institutes or museums in the 30 largest cities in the country.

Mayors' Conference

City Problems of 1942.—Edited by Paul V. Betters, Executive Director, The United States Conference of Mayors, 730 Jackson Place, Washington, D. C. iii + 175 pp. $3.00.

Papers on the problems of cities in wartime, delivered at the annual meeting of The United States Conference of Mayors, held in Washington in January, and including conference resolutions.

Tax Conference

Proceedings of the Thirty-fourth Annual Conference on Taxation, under the Auspices of the National Tax Association, held at St. Paul, Minn., Oct. 13-16, 1941.—Edited by Raymond E. Manning, Secretary, National Tax Association, Washington, D. C. xxiv + 812 pp.

Of particular interest to municipal officials are sections of these proceedings dealing with State and Local Fiscal Problems Raised by the National Defense Program; Impact of National Defense on State and Local Finances; State Tax Department Responsibility for Local Assessments; Taxation of Governmental Securities and the Income Therefrom; the War's Challenge to Citizen Concern with Government; Problems of Local Tax Administration; and Coordination of Federal, State, and Local Taxes.

Race Relations

Color, Class, and Personality.—By Robert L. Sutherland. Prepared for the American Youth Commission. Apply to American Council on Education, Washington, D. C. 1942. xxiii + 135 pp.

"How does the fact of being born a Negro affect the developing personality of a boy or girl?" Findings of studies to answer this question, made as a part of the three-year Negro Youth Survey of the American Youth Commission, are summarized here with their implications for our national life. Recommendations are made, specific projects suggested, and advice given to agencies at work in the field.

Intergovernmental Cooperation in Housing

Wartime Housing in the New York Metropolitan Area.—Citizens' Housing Council of New York, Inc., 470 Fourth Ave., New York, 1942. 25 pp., mimeo. 25c.

A series of statements prepared for the Council by six federal and state agencies, on their wartime housing activities in the New York area, and on the ways in which local public bodies and civic organizations in that area can cooperate in making these activities more effective.

Other Reports Received

BERKELEY, CALIF.—Civic Affairs, Annual Report, year ending June 30, 1941. 40 pp.

CALIFORNIA.—Delinquent Property Taxes and Assessed Values for 1941. California State Board of Equalization. 1941. 17 pp., photo offset.

CHICAGO, ILL.—The Annual Appropriation Bill of the City of Chicago for the Year 1942. Ludwig D. Schreiber, City Clerk. 151 pp.

DETROIT, MICH.—How War and Governmental Research Do—Will—Can Affect One Another. By Dr. William H. Allen, Director, Institute for Public Service, New York. Apply to Governmental Research Association, 5135 Cass Ave., Detroit.

GARY, IND.—Financial Report, 1941. Department of Finance.

EAST ORANGE, N. J.—Annual Report, Board of Health. 78 pp.

JACKSON, MISS.—Annual Report, 1941. 64 pp.

JAMESTOWN, N. Y.—Annual Report, 1941, Board of Public Utilities. 31 pp.

LOS ANGELES, CALIF.—Defense Housing, and Air-Raid Protection—Bibliographies. Municipal Reference Library. 11 pp., 10 pp., respectively, mimeo.

NEW YORK CITY—Report of the Secretary, Board of Education, 1938-1941. 95 pp. —Annual Report, 1941, New York City Housing Authority. 51 pp.

RICHMOND, IND.—Annual Report, Controller, year ending Dec. 31, 1941. 16 pp.

RUMFORD, MAINE.—Civic Review, 1941. 80 pp.

SAN FRANCISCO, CALIF.—Report of San Francisco Civil Defense Council, 1941. 47 pp.

STOCKBRIDGE, MASS.—Annual Reports, Town Officers, 1941. 27 pp.

Conversion in the War Housing Program, and The Use of Demountable Houses in the War Housing Program.—National Association of Housing Officials, 1313 E. 60th St., Chicago, Ill. 1942. Both 4 pp., mimeo.

Volunteers in Health, Medical Care and Nursing.—U. S. Office of Civilian Defense, Washington, D. C. 11 pp.

Night Safety Bought Cheaply.—By Richard E. Simpson. Reprinted from Illuminating Engineering, Jan., 1942. Apply to the Street and Highway Lighting Safety Bureau, 155 E. 44th St., New York. 51 pp.

Safe on Foot.—National Safety Council, 20 N. Wacker Drive, Chicago, Ill. 62 pp.

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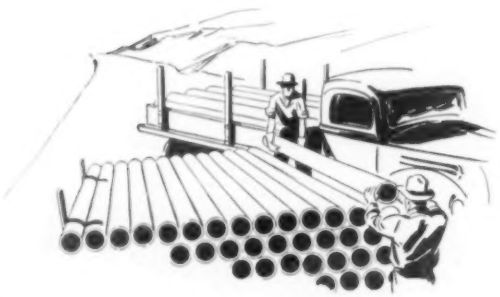

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Conventions—When and Where

***March 16-17.—Baton Rouge, La.**
LOUISIANA MUNICIPAL ASSOCIATION. (Hidelberg Hotel.) Sec., Joseph W. Reid, Jr., Law Bldg., University Station, Baton Rouge, La.

***March 23-25.—Houston, Texas.**
AMERICAN SOCIETY OF MECHANICAL ENGINEERS. (Rice Hotel.) Nat'l Sec., C. E. Davies, 29 W. 39th St., New York.

***March 26.—Trenton, N. J.**
AMERICAN WATER WORKS ASSOCIATION—NEW JERSEY SECTION. (Stacy-Trent Hotel.) Sec., C. B. Tygert, P. O. Box 178, Newark, N. J.

April 9-10.—Lafayette, Ind.
AMERICAN WATER WORKS ASSOCIATION—INDIANA SECTION. (Purdue Memorial Bldg.) Sec., H. G. Horstman, 603 Traction Terminal Bldg., Indianapolis, Ind.

***April 13-15.—Fayetteville, Ark.**
ARKANSAS WATER AND SEWAGE WORKS CONFERENCE. (Engineering Bldg., University of Arkansas.) Sec., Harrison Hale, University of Arkansas, Fayetteville, Ark.

April 14-16.—St. Louis, Mo.
MISSOURI ASSOCIATION OF PUBLIC UTILITIES. (Jefferson Hotel.) Asst. Sec., Jesse Blythe, 101 W. High St., Jefferson City, Mo.

April 15-17.—Niagara Falls, Ont.
AMERICAN WATER WORKS ASSOCIATION—CANADIAN SECTION. (General Brock Hotel.) Sec., Dr. A. E. Berry, Ontario Dept. of Health, Parliament Bldg., Toronto, Ont.

***April 17-18.—Helena, Mont.**
AMERICAN WATER WORKS ASSOCIATION—MONTANA SECTION. (Placer Hotel.) Sec., Herbert B. Foote, State Bd. of Health, Helena, Mont.

***April 27-28.—Savannah, Ga.**
ASSOCIATION OF COUNTY COMMISSIONERS OF GEORGIA. (De Soto Hotel.) Exec. Sec., Betty Peeler, 134 Peachtree St., N. W., Atlanta, Ga.

April 27-30.—Washington, D. C.
CHAMBER OF COMMERCE OF THE UNITED STATES. Sec., Ralph Bradford, 1615 H St., N. W. Washington, D. C.

April 30-May 1.—Niagara Falls, N. Y.
AMERICAN WATER WORKS ASSOCIATION—NEW YORK SECTION. Spring meeting. (Hotel Niagara.) Sec.-Treas., R. K. Blanchard, 50 W. 50th St., New York.

***May—Biloxi, Miss. (Date later.)**
MISSISSIPPI MUNICIPAL LEAGUE. (Buena Vista Hotel.) State Mgr., C. D. Ross, Old Merchants Bank Bldg., Jackson, Miss.

***May 7-8.—Seattle, Wash.**
ASSOCIATION OF WASHINGTON CITIES. (Olympic Hotel.) Exec. Sec., Chester Biesen, University of Washington, Seattle, Wash.

***May 7-8.—Hagerstown, Md.**
MARYLAND-DELAWARE WATER AND SEWAGE ASSOCIATION. (Alexander Hotel.) Sec.-Treas., Carl J. Lauter, 5902 Dalecarlia Place, N. W., Washington, D. C.

May 7-9.—Walla Walla, Wash.
AMERICAN WATER WORKS ASSOCIATION—PACIFIC NORTHWEST SECTION. (Marcus Whitman Hotel.) Sec., Fred Merryfield, Oregon State College, Corvallis, Ore.

May 15-16.—Toledo, Ohio
AMERICAN WATER WORKS ASSOCIATION—OHIO SECTION. Sec., T. R. Lathrop, State Dept. of Health, Columbus, Ohio.

May 17-20.—Cleveland, Ohio
SMOKE PREVENTION ASSOCIATION. Sec., Frank A. Chambers, City Hall Square Bldg., Chicago, Ill.

May 18-21.—Pittsburgh, Pa.
BUILDING OFFICIALS' CONFERENCE OF AMERICA. (Hotel Schenley.) Sec.-Treas., Arthur N. Rutherford, Building Inspector, West Hartford, Conn.

May 20-25.—Hollywood, Calif.
NATIONAL ASSOCIATION OF COUNTY OFFICIALS. Sec.-Treas., George F. Breitbach, Court-House, Milwaukee, Wisc.

May 21-25.—Grants Pass, Ore.
LEAGUE OF OREGON CITIES. (Redwoods Hotel.) Sec., Herman Kehrli, University of Oregon, Eugene, Ore.

My 24-27.—Philadelphia, Pa.
PENNSYLVANIA STATE ASSOCIATION OF TOWNSHIP COMMISSIONERS. (Benjamin Franklin Hotel.) Sec.-Treas., H. A. Fritschman, Upper Darby, Pa.

May 25-27.—Indianapolis, Ind.
NATIONAL CONFERENCE ON PLANNING. Joint annual conference of American Society of Planners, the American Planning and Civic Association, and the National Planning Association. Conference Dir., Walter H. Blucher, 1313 E. 60th St., Chicago, Ill.

***May 27-28.—Boston, Mass.**
NEW ENGLAND SEWAGE WORKS ASSOCIATION. Spring meeting. (Hotel Bradford.) Sec.-Treas., LeRoy W. Van Kleeck, State Dept. of Health, Hartford, Conn.

***May 28-29.—Prescott, Ariz. (Place later.)**
ARIZONA MUNICIPAL LEAGUE. Sec., James Girand, Phoenix, Ariz.

June 8-10.—Syracuse, N. Y.
CONFERENCE OF MAYORS AND OTHER MUNICIPAL OFFICIALS OF THE STATE OF NEW YORK. Exec. Sec., William P. Capes, City Hall, Albany, N. Y.

***June 8-11.—Cleveland, Ohio**
AMERICAN SOCIETY OF MECHANICAL ENGINEERS. Semi-Annual meeting. (Hotel Statler.) Nat'l Sec., C. E. Davies, 29 W. 39th St., New York.

***June 13-17.—Ely, Minn. (Tentative)**
LEAGUE OF MINNESOTA MUNICIPALITIES. Exec. Sec., C. C. Ludwig, University of Minnesota, Minneapolis, Minn.

June 21-23.—Chicago, Ill.
AMERICAN WATER WORKS ASSOCIATION. (Stevens Hotel.) Sec., Harry E. Jordan, 22 E. 40th St., New York.

June 22-23.—Buffalo, N. Y.
MUNICIPAL FINANCE OFFICERS' ASSOCIATION OF THE UNITED STATES AND CANADA. Exec. Sec., Carl H. Chatters, 1313 E. 60th St., Chicago, Ill.

June 22-26.—Erie, Pa.
PENNSYLVANIA STATE ASSOCIATION OF BOROUGHS. Pres., Thomas F. Chrostwaite, Hanover, Pa.

June 25-27.—Reading, Pa.
EASTERN ASSOCIATION OF FIRE CHIEFS. (Berkshire Hotel.) Sec., Charles E. Clark, Box 217, Wayne, Pa.

***June 28-30.—Sun Valley, Idaho**
IDAHO MUNICIPAL OFFICERS' ASSOCIATION. Sec., George C. Huebener, Emmett, Idaho.

June 28-July 2.—Denver, Colo.
NATIONAL EDUCATION ASSOCIATION OF THE UNITED STATES. Exec. Sec., Willard E. Givens, 1201 16th St., N. W., Washington, D. C.

***August 16-22.—Evanston, Ill.**
NATIONAL INSTITUTE FOR COMMERCIAL AND TRADE ORGANIZATION EXECUTIVES. (Northwestern University.) Sec.-Treas., Clarence R. Miles, 832 First National Bank Bldg., Chicago, Ill.

***August 17-19.—Des Moines, Iowa**
LEAGUE OF IOWA MUNICIPALITIES. (Savery Hotel.) Sec.-Treas., Frank G. Pierce, Marshalltown, Iowa.

August 24-26.—State College, Pa.
PENNSYLVANIA WATER WORKS OPERATORS' ASSOCIATION. Sec.-Treas., I. M. Glace, 22 S. 22nd St., Harrisburg, Pa.

Sept. 9-11.—Traverse City, Mich
AMERICAN WATER WORKS ASSOCIATION—MICHIGAN SECTION. (Park Place Hotel.) Sec., M. N. Gerardy, Water Board Bldg., Detroit, Mich.

***Sept. 9-12.—Denver, Colo.**
NATIONAL ASSOCIATION OF ASSESSING OFFICERS. Exec. Dir., Albert W. Noonan, 1313 E. 60th St., Chicago, Ill.

***Sept. 14-16.—Dickinson, N. Dak.**
LEAGUE OF NORTH DAKOTA MUNICIPALITIES. Exec. Sec., Myron H. Atkinson, City Auditor, Bismarck, N. Dak.

Sept. 15-18.—Poland Spring, Maine
NEW ENGLAND WATER WORKS ASSOCIATION. (Poland Spring House.) Sec., Frank J. Gifford, 613 Statler Bldg., Boston, Mass.

***Sept. 21-24.—Los Angeles, Calif.**
LEAGUE OF CALIFORNIA CITIES. (Biltmore Hotel.) Sec., Richard Graves, 2121 Allston Way, Berkeley, Calif.

***Sept. 25.—New London, Conn.**
NEW ENGLAND SEWAGE WORKS ASSN. Fall meeting. (Ocean Beach Pavillion.) Sec.-Treas., LeRoy W. Van Kleeck, State Dept. of Health, Hartford, Conn.

***Sept. 24-26.—St. Paul, Minn.**
AMERICAN WATER WORKS ASSOCIATION—MINNESOTA SECTION. (Lowry Hotel.) Sec.-Treas., Ronald M. Finch, Wallace & Tiernan Co. Inc., 414 Flour Exchange, Minneapolis, Minn.

***October.—Augusta, Maine. (Tentative)**
MAINE MUNICIPAL ASSOCIATION. (City Hall.) Act. Exec. Sec., Ernest H. Johnson, 97 Water St., Hallowell, Maine.

Oct. 2-4.—Chicago, Ill.
INSTITUTE OF TRAFFIC ENGINEERS. (Hotel Stevens.) Sec.-Treas., W. Graham Cole, 60 John St., New York City.

***Oct. 5-8.—Cleveland, Ohio**
NATIONAL ASSOCIATION OF PUBLIC SCHOOL BUSINESS OFFICIALS. (Hotel Statler.) Sec., H. W. Crambiet, Board of Education, Pittsburgh, Pa.

***Oct. 5-8.—Atlantic City, N. J.**
INTERNATIONAL MUNICIPAL SIGNAL ASSOCIATION, INC. (Hotel Traymore.) Sec., Irvin Shulsinger, 8 E. 41st St., New York City.

***Oct. 5-9.—Chicago, Ill.**
NATIONAL SAFETY COUNCIL. (Stevens Hotel.) M'ng Dir., W. H. Cameron, 20 North Wacker Drive, Chicago, Ill.

Oct. 11-15.—Richmond, Va. (Tentative)
LEAGUE OF VIRGINIA MUNICIPALITIES. (John Marshall Hotel.) Exec. Sec., Harold I. Baumes, 902 Travelers Bldg., Richmond, Va.

***Oct. 11-15.—French Lick, Ind.**
INTERNATIONAL CITY MANAGERS' ASSOCIATION. (French Lick Springs Hotel.) Exec. Sec., Clarence E. Ridley, 1313 E. 60th St., Chicago, Ill.

***Oct. 12-14.—Rochester, N. Y.**
AMERICAN SOCIETY OF MECHANICAL ENGINEERS. Fall meeting. (Sagamore Hotel.) Nat'l Sec., C. E. Davies, 29 W. 39th St., New York City.

Oct. 12-15.—(Place later.)
AMERICAN WATER WORKS ASSOCIATION—SOUTHWEST SECTION. Sec., Lewis A. Quigley, 3320 W. Berry St., Fort Worth, Texas.

Oct. 15-17.—Cleveland, Ohio
FEDERATION OF SEWAGE WORKS ASSOCIATION. (Statler Hotel.) Exec. Sec., W. H. Wisley, Box 18, Urbana, Ill.

***Oct. 19-22.—Cincinnati, Ohio**
NATIONAL TAX ASSOCIATION. (Netherland Plaza Hotel.) Sec., Raymond E. Manning, Library of Congress, Washington, D. C.

***Oct. 22-24.—St. Louis, Mo**
AMERICAN WATER WORKS ASSOCIATION—MISSOURI VALLEY SECTION. (Coronado Hotel.) Sec., Earle L. Waterman, Prof. Sanitary Engineering, University of Iowa, Iowa City, Iowa.

***Nov. 30-Dec 4.—New York City**
AMERICAN SOCIETY OF MECHANICAL ENGINEERS. (Hotel Astor.) Annual meeting. Nat'l Sec., C. E. Davies, 29 W. 39th St., New York City.

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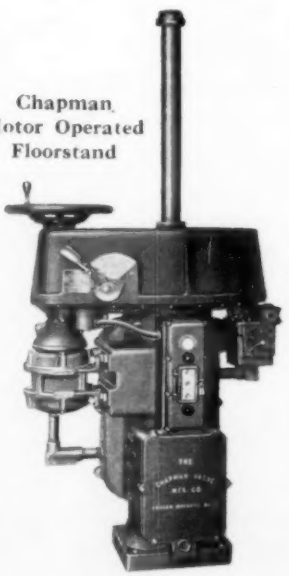

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News and Illustrations

Items of Interest to City, Town and County Officials, and Others Concerned with the Economical Construction and Efficient Operation of Public Improvement Undertakings

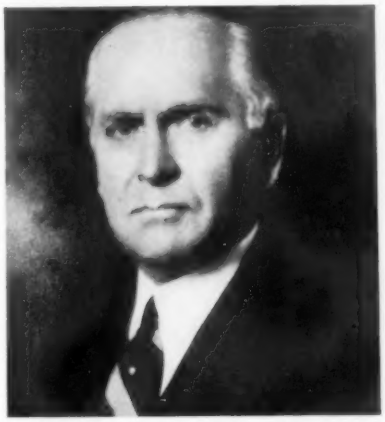
Fifty Years' Service Completed by Mathieson Alkali Works

THIS year, the Mathieson Alkali Works, Inc., manufacturer of chemical products, including several for the treatment of water and sewage, will complete its first half-century of continuous operation. Incorporated in 1892 in Virginia, the company's first plant was at Saltville, where soda ash and caustic were manufactured. The chief raw materials for making these products are salt, obtainable from the historic salt springs in the Holston Valley at Saltville, and limestone quarried from the hills that ring this part of Virginia.

MATHIESON ALKALI WORKS, INC.
CELEBRATING FIFTY YEARS OF SERVICE TO AMERICAN INDUSTRY AND PUBLIC HEALTH
1892-1942
MANUFACTURERS OF CHEMICALS

In 1895 the company developed the use of the Castner electrolytic cell for the manufacture of caustic soda and chlorine and in the following year at Niagara Falls, where power was plentiful and cheap, built its second plant and began the commercial production of caustic and bleaching powder. In 1935 it added considerably to its alkali production facilities by the completion of a large plant at Lake Charles, La., where caustic soda, soda ash, and synthetic salt cake are made available to the fast-growing industries of the South and Southwest. Last year, production facilities of this plant were increased by 40 per cent.

Developments in chemical manufacture prior to World War I made it possible to produce liquid chlorine commercially, and it soon came into general use for water and sewage treatment in place of bleaching powder. Mathieson engineers designed containers, valves, and other equipment that made the shipping and handling of liquid chlorine safe and economical. The well-known multi-unit liquid chlorine tank car was designed and developed by Mathieson, and the long fight to secure its full rating as a tank car by the carriers was undertaken to allow the use of the new car by the rest of the industry.



E. M. Allen, president of Mathieson Alkali Works. The 50-year service medalion is shown at left.

This firm pioneered in the development of a stable, highly concentrated calcium hypochlorite so well suited to smaller water works, swimming pools and sewage plants, and emergency chlorination. Another pioneering venture undertaken by Mathieson was the production of synthetic ammonia. Nitrogen is taken from the air and combined with the by-product hydrogen gas from the electrolytic alkali process to make this product. Prior to this, ammonia was produced from by-product ammoniacal liquor, and the cost to the consumer was relatively high. Today a large percentage of the ammonia on the market is made synthetically.

In common with all of American industry, Mathieson again faces the grim test of war. Already its plants have been geared to maximum production to meet the increasing demands for chemicals both for war materials and for increased protection of military and civilian water supplies.

Asphalt Use Increases by 21 Per Cent

The net refinery production of asphalt in the United States for the first eleven months of 1941 has reached a total of 7,619,000 tons, or more than 21 per cent above the previous high set in 1930, according to figures compiled from the monthly petroleum statements of the U. S. Bureau of Mines and released by the Asphalt Institute.

Unprecedented asphalt production at the refineries, the Institute reports, was needed to meet the heavy demand for its use in laying the asphalt runway surfacing of the vast network of new defense airports, under construction. Heavy duty access roads to industrial plants and to army and navy establishments have also required and received a substantial tonnage of asphalt.

Landscape Architects Merge for Duration

Six nationally known landscape architectural firms have merged their personnel, office facilities, and equipment for the planning and supervision of the larger defense projects. Known as "Associated Landscape Architects," with offices at 664 North Michigan Avenue, Chicago, this expert defense group will specialize in site and town planning, defense housing, airports, recreational areas, and defense industrial plants.

Unique in their category of war work is a complete service for camouflaging industrial plants, army and navy bases, public buildings, and arterial highways through the use of landscaping. This group feels that it is the only one in the United States offering this specialized service.

Included in this group of specialists are C. B. Andrews; Fitzgerald and Atkinson; Robert Bruce Harris; Ralph Rodney Root; Simonds, West, and Blair; and F. A. Cushing Smith and Associates. This association is for the primary purpose of handling large defense emergency projects. Each firm will maintain its own identity as far as its general private practice is concerned.

Black Named President of Civil Engineers

At the annual meeting held in January, the American Society of Civil Engineers elected Ernest B. Black, senior member of Black and Veatch, consulting engineers of Kansas City, Mo., to be president of the Society for the coming year.

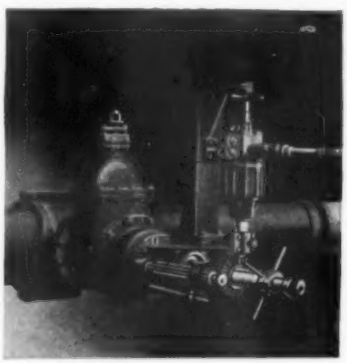
Mr. Black began consulting work in 1909 with the J. S. Worley Co., later known as Worley and Black and, since 1915, as Black and Veatch. Mr. Black's career in World War I included construction of Camp Pike, subsequently attached to the Signal Corps, and assigned as engineer to the War Credits Board. At the close of the war Mr. Black held the rank of major, aircraft production. During the present war, his firm has had charge of the construction of Camps Robinson and Chaffe located in Arkansas.

Will any water superintendents be caught NAPPING?

Even though we may believe that the chances of bombs falling on our cities are extremely remote, PREPAREDNESS for ALL contingencies is a "MUST." If bombs *should* fall, fires start, water mains burst, is *your* City equipped to maintain adequate water service—to repair the burst mains, or to make connection speedily to supplementary pipe lines?

A very good way to help insure complete water supply protection is to check up on your supply of dependable *SMITH Water Works Equipment*—valves, hydrants, valve inserting machines, tapping machines, tapping sleeves.

Do you have a Tapping Machine like this — for making branch connections to water mains under pressure? This SMITH Tapping Machine is made in several sizes for tapping connections from 2" to 42" into any size mains not smaller than the size of the connection desired. Both hand- and power-operated machines are available.



SMITH Tapping Sleeves for making pressure connections to AWWA standard mains, classes A, B and C, and for pressures up to 150 lbs. per square inch, are made in four types, here illustrated. At top: 1. Clamped Sleeve Joint; 2. Bolted Sleeve Joint. Bottom row: 3. Bolted Sleeve Joint with flanged end joint valve connection; 4. Hackensack Sleeve Joint with flanged end joint valve connection.

Below: SMITH Tapping Valves, for use with Types 1, 2, 3 and 4 Sleeves and for Classes A, B and C Mains: At left with flanged joint; and at right, with bayonet joint.

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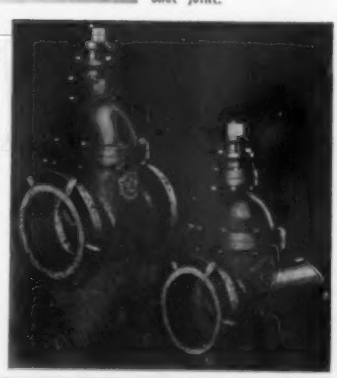

WARREN 4"-16" Spun CENTRIFUGAL C. I. PIPE

The above picture was snapped showing the method of handling this superior pipe. *Write for our new catalog describing WARREN SPUN CENTRIFUGAL PIPE.* Warren has cast iron pipe in sizes 2 in. to 84 in. to meet your every need; *specializes in THREADED CAST IRON PIPE* for filtration systems, golf links, sprinkler systems, etc., sizes 1½ in. to 12 in. *and invites your inquiries.* Also has the finest of special castings, bell and spigot, flange, flexible joint, culvert, milled and plain end tubes, cylinders, flanged and bell spigot fittings, high-pressure fire service pipe and WARREN Short Body Specials.....
.....Write for catalogs.

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GIANT

Reduce Pipe-Laying Costs with a GIANT Pipe Pusher

Write for booklet telling of this small inexpensive tool that pushes pipe (up to 15" diameter) through the ground at the rate of 1 to 5 feet per minute, thus avoiding the heavy expense of trenching.

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Outside ocean-view rooms, sundecks and verandahs, beautiful dining room at the water's edge, superb French cuisine, sports, entertainment, game room, magnificent Bar.

DAILY RATES (Per Person, Two in Room) FROM
$6.50 ROOM, BATH AND MEALS ★ ROOM ONLY WITH BATH **$3.50**

HOTEL CHELSEA ON THE BOARDWALK ATLANTIC CITY, N. J.

George A. McKenna, president of Pomona Pump Co., announces acquiring Wesco Pump Division

Westco Pump Division Acquired by Pomona

Pomona Pump Co., Pomona, Calif., has acquired the Westco Pump Division of Micro-Westco, Inc., Bettendorf, Iowa, according to an announcement by George A. McKennon, president of Pomona Pump Co.

The newly acquired business will be operated as Pomona Pump Co., Westco Division, at 2621 Locust St., St. Louis, Mo. The manufacture of the pumps will continue from the St. Louis plant of the Pomona Pump Co. Management and key personnel of Westco, Mr. McKenna reports, will be transferred to St. Louis to carry on intact the manufacture and distribution of the complete line of Westco pumps through the same national organization built by Westco over the past 16 years.

Addition of the Westco turbine type pump for industrial and marine application, also boiler feed and condensation units, side suction centrifugals, complete water systems, line and cellar drainers rounds out the line of Pomona deep well, low life, industrial marine and municipal pumps.

In making announcement of the purchase of Westco, Mr. McKenna stated, "The manufacture and distribution of this combined line of pumping equipment greatly extends our coverage in the entire pumping field, particularly in industries having diversified pumping problems."

Tire-Saving Booklet by the Goodrich Co.

Keyed to the growing realization of the importance of rubber-shod trucks to America's war effort is a booklet just published by the B. F. Goodrich Co., providing new data on obtaining maximum service from truck tires. The booklet is available at no charge to municipal officials and truck operators upon request. Called the Operator's Handbook, it is unusually timely because of the government's war program of rubber conservation.

The main feature of the publication is a 15-page section dealing with factors governing truck tire service. Included in the special section are charts and tables portraying the value of proper inflation and loads, the dangers in over- and under-inflation, mis-matched dual tires, causes of uneven tread wear, and the effect of overloads and excessive speeds.

These and other factors are summarized in 20 practical rules showing truck operators how to obtain maximum service life from their truck tires.

International Filter Co. Changes Corporate Name

International Filter Co., Chicago, has changed its corporate name to "Infilco Incorporated." This change, it is stated, will avoid the inference that the company's principal product is filters.

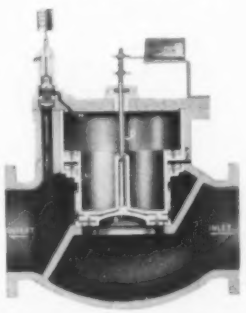
Organized 48 years ago, Infilco's early activities were in the design and development of filters and filter plant equipment. Thirty years ago the company started the manufacture of water-softening and other water-conditioning equipment. Today its products include sewage-treating equipment as well as equipment of every type and size needed to meet modern requirements of water-conditioning. For the past 10 years, states P. N. Engel, president, the registered trademark "Infilco" has identified rate of flow controllers, gauges, chemical feeders, aerators, recarbonators, hydraulic controls, coagulators, as well as other equipment.

Electric Double Cushioned Check Valve

This valve is for use in connection with remote tank storage service with valve located adjacent to motor centrifugal pump, also where a high-low pressure or float-operated switch located at tank is wired to the valve in order to accomplish complete automatic sequence of operation for starting and stopping the pump with respect to storage water levels.

Sizes 3" to 36", angle and globe patterns.

Write for specifications.



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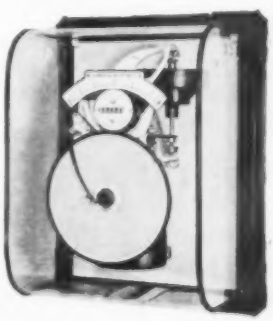
Fulton Building Pittsburgh, Pa.

SPARLING
WATER MAIN LINE METERS

Your MASTER Records

Every man responsible for water service knows the danger of *guessing*. It is not enough to know the *rated* capacity of a pump. What is it doing right *now?*

The instrument at the right tells all—direct totalization—present rate of flow—a complete picture of each 24 hours' or 7 days' deliveries. It can be installed close to, or miles away from, the Sparling Direct Action Meter that controls it.



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CONCRETE

pavement can be designed for any conditions of load and service *and with a minimum of critical materials*

Concrete with its all-season strength to "take it" is the ideal pavement for roads, streets and runways essential to the war program.

Concrete pavement can be designed efficiently for any weight and volume of traffic, with neither expensive over-design nor wasteful inadequacy.

And economical, simplified designs are in use today which, without sacrificing concrete's serviceability, *conserve a large part of the critical materials frequently called for in many current designs.* These simplified designs include modified joint arrangements shown to be satisfactory and entirely practicable in studies covering thousands of miles of concrete pavements.

Even though a priority may be obtained for your job, critical materials can be saved by design modification. As a war aid—as a progressive measure for the future—consider simplification of your concrete pavement designs. Write us for information.

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A national organization to improve and extend the uses of concrete . . . through scientific research and engineering field work

✚ *Support the Red Cross* ✚

Experiment with Coffee Makes Better Diesels

Better diesel engines for submarines, tanks, trucks, and other vital power applications are being produced because Earl Patch, sales manager for the Moraine Products Division of General Motors, wanted a better cup of coffee and didn't know how to make it.

Moraine Products, a pioneer in the field of powder metallurgy, makes oil-absorbing bearings. One day Earl Patch brought a percolator to the office and said, "If we can make a piece of metal that will soak up oil, why can't we make a piece of metal that will drip coffee?"

Roland Koehring, research engineer, could see no reason why not. J. H. Davis, general manager, also became interested, and together they developed a non-crumbling, sand-like filter that they thought was the answer. However, it didn't work. Outside of the first few cups, the coffee was terrible. Grounds lodged in the pores of the filter and turned the filter rancid.

The filter, however, was found to be just the thing that the engineers of the Detroit Diesel Engine Division of General Motors were looking for to prevent the tiny holes in diesel fuel injectors from clogging. Furthermore, Mr. Davis reports, an adaptation of this porous metal is used as a bonding agent in a new type of babbit-lined main and connecting rod bearing.

The Ranney Company Moves to Louisville

The Ranney Company, developers of the radial well method of water collection, has transferred its main offices from New York City to Louisville, Ky. The offices for the firm, formerly known as the Ranney Water Collector Corporation of New York, are to be located in the Heyburn Building.

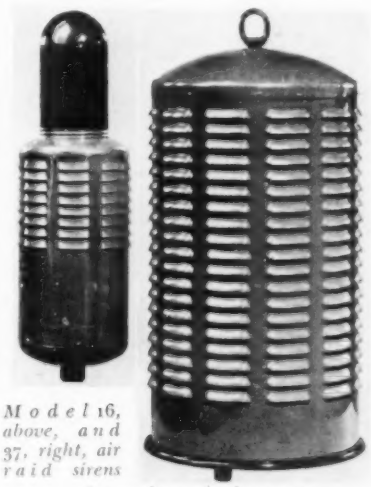
The Ranney method of obtaining water from sub-surface water-bearing levels employs a central caisson sunk to varying depths, from which slotted screen collector pipes are projected radically into the water-bearing strata. One of these wells, in the proper location, can be developed to yield enough water to supply the needs of 100,000 population.

Air Raid Sirens for Varying Conditions

The large area of the average city, plus ordinary city noise, noise within buildings, and interference of large buildings are only a few factors which make it impossible for one siren to be heard throughout a city. Efficient zoning of a large community with each zone having its own air raid signal overcomes this handicap. Many different models are manufactured to meet these various conditions.

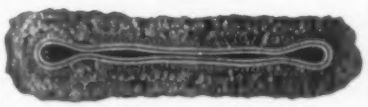
Sparton sirens, manufactured by the Sparks-Withington Company, Jackson, Michigan, have been produced in a variety of models in an effort to serve practically all conditions. These, the manufacturer states, are weather-proof and fully protected from birds, bugs, and foreign material.

Model 37 is described as a high-powered, non-directional electric siren with a howl that carries from two to five miles. It is particularly suitable, the manufacturer believes, to large areas such as municipalities, airports, universities, and public utilities. Model 16 is smaller but of a size that the manufacturer believes will be suitable to the major portion of public demand. It is rated as having a radius of ¾ to 1½ miles.



Model 16, above, and 37, right, air raid sirens for various requirements

WHY—



The above illustration shows the position of the rubber lining in

Bi-Lateral Fire Hose

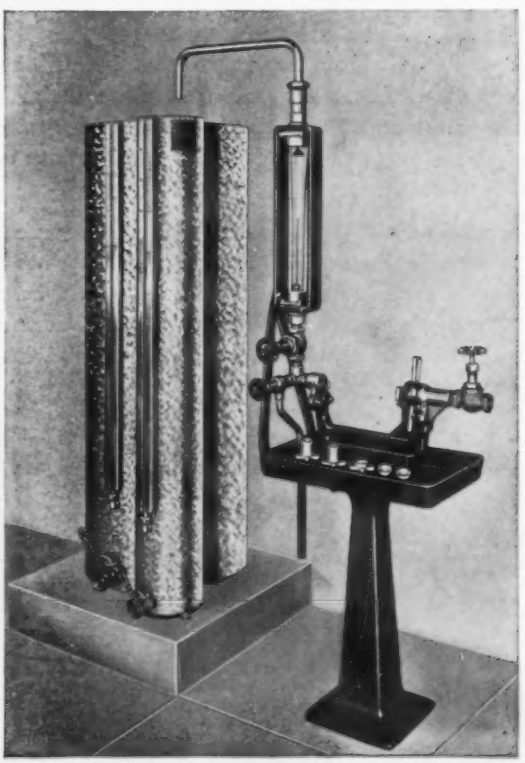
when it is held in a flattened position between calls into service. This is why we can save a city one replacement, because the hose will give double the service of any hose constructed under the old method.

— Also —

We can load 25% more on the apparatus-bed, actually making an $8,000 truck loaded with the Bi-Lateral construction, cheaper than one priced at $7,000 when loaded with other construction.

BI-LATERAL FIRE HOSE CO.

20 N. Wacker Drive, Chicago, Illinois



Meter **TESTER** *and* **TANK**

Ford Meter Testing Equipment provides maximum convenience in the three essentials: clamping of meter in testing position; regulating the test flow; and computing the accuracy of the meter. Testing Machines and Calibrated Tanks are made in five standard sizes. Special machines have been made for scores of large meter shops.

All Ford Testers can be provided with the Testerate Indicator.

Tell us your testing problems.

FORD METER BOX CO.

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Kudos from Congress
to Detroit's Department of Public Welfare

"Your [tabulated] report was the most comprehensive... submitted to the [Congressional Migration] Committee to date... The volume of work that your organization undertook in a limited time assisted us to compile data that we have not been able to ascertain in previous hearings."

—From the story by D. S. Ryan Jr. in this issue of AMERICAN CITY

...Proof that still another city government gets top efficiency with the Remington Rand Punched-Card Accounting Plan

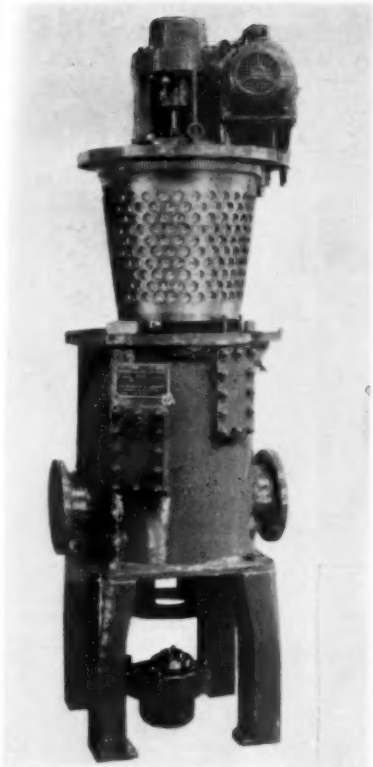
• Into our offices, day after day, come "success stories" built around Remington Rand Tabulating Machines. Occasionally one gets into print, like Mr. Ryan's article this month. In all of them the details are different, but the main theme is the same . . . *exclusive* Remington Rand machine *features* deliver the *greatest possible value* from the punched-card accounting plan, the *greatest possible volume* of vital information from a given number of machines.

Somewhere in our files is a "success story" for you . . . somewhere in America another city official is using Remington Rand Tabulating Machines to get *exactly* the kind of reports *you've* been wanting to get. His experiences will be mighty valuable to you—why not let us bring them to you? You need only call our nearest branch office today—or write, wire or telephone the Tabulating Machines Division of Remington Rand at Buffalo, New York.

Today... Look into REMINGTON RAND Punched-Card Accounting AND TABULATING MACHINES

(The Machines you can rent or BUY with impressive savings either way)

During March we hope you will remember to mention THE AMERICAN CITY.



Brassert 8-inch automatic self-cleaning strainer. Conical drum has been lifted from the housing to show strainer discs

Self-Cleaning Strainer Relieves Filter Load

An automatic, self-cleaning strainer extensively used by industry is now finding acceptance as a practical and inexpensive method of relieving loads on municipal water works. This equipment, known as the Brassert Automatic Self-Cleaning Strainer, originally was designed by H. A. Brassert and Co. of New York City to remove abrasive materials from muddy water for the steel industry. Its efficiency has led to use in other industries and now to certain municipal installations.

This equipment, the manufacturer points out, may well be adapted to municipal water works that now are found to be overloaded. Its use, also, in new installations, should allow less expensive design of the entire plant unit.

The strainer consists essentially of a rotating drum fixed to a vertical shaft. The entire vertical surface of this drum is drilled with rows of holes. These in turn are filled with screening media suitable for the water to be treated. Raw water enters the inlet at the bottom, rises around the revolving drum, and passes under pressure through the screening media. The strainer is continuously backwashed in a unique manner that allows cleaning every ten to twenty seconds. The water discharges through an outlet in the bottom opposite the inlet.

The strainer, obviously, must be used on the discharge side of a pump and operate against a specified head. Head loss is rated at 1½ pounds. Not over 5 per cent of the total flow of influent is required for back-wash, the manufacturer asserts.

Consulting Engineers Name Pirnie President

At a meeting held in New York on Jan. 19 and 20, Malcolm Pirnie was elected president of the American Institute of Consulting Engineers. Mr. Pirnie, prominent New York consulting engineer in the municipal field, has been in independent private practice since 1929. Prior to that he had been associated with Hazen and Whipple, which firm eventually became Hazen, Everett, and Pirnie. He has had a wide range of experience which included assignment with the Red Cross to Russia in 1916.

He is a past president of the American Water Works Association and has been a vice-president of the American Society of Civil Engineers. Recently he has served on advisory committees on construction problems in Washington and as consulting engineer to the War Department on defense water supply problems from California to the West Indies.

Other officers elected include Rear Admiral R. E. Bakenhus, retired, vice-president; Philip W. Henry, secretary; and James Forgie, treasurer.

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FOR A COMPLETE LINE OF SEWAGE AND WATER-TREATMENT EQUIPMENT . .

Bar screens (mechanically-cleaned)
Chemical feeders (electric vibrating)
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Grit washers
Grit collectors
Primary and secondary sludge collectors
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(All Patented)

Jeffrey engineers have had years of experience—have made many installations—can offer technical data on both equipment and plant design. Write

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REEVES Glengarrie POPLIN

Demand these labels when buying uniforms

UNIFORMS OF REEVES ARMY TWILL CAN TAKE IT!

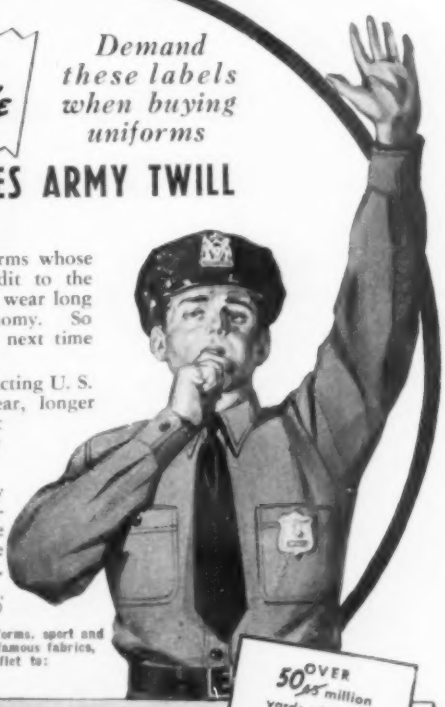
The "City's Finest" require uniforms whose neat, trim appearance are a credit to the Force and to the City. They must wear long and well for the utmost economy. So specify *Reeves* famous fabrics the next time you are ordering *your* uniforms.

REEVES ARMY TWILL meets exacting U. S. Government Tests for better wear, longer life, and color-fastness. Its fabric vitality keeps it "in shape" under trying conditions.

For matching shirts, specify GLENGARRIE POPLIN, a durable, stylish fabric in a wide range of colors. Both fabrics are Sanforized* against shrinking.

Fabric shrinkage not more than 1%. (U. S. Government Test CCC-T-191-a.)

See your nearest dealer for uniforms, sport and work clothes made from these famous fabrics, or write for colorful leaflet to:



OVER 50 million yards of Reeves Army Twill sold to the U.S. ARMY

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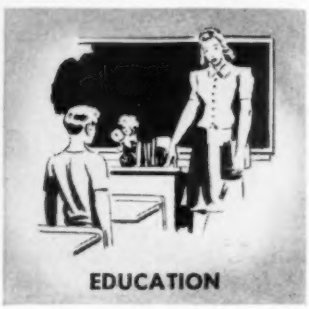
CIVILIAN DEFENSE

TRANSPORTATION


EDUCATION

Modern Accounting Will Help You Control the Cost of Increased Municipal Service

Many municipalities, faced with additional expenses due to expanding wartime activities, are helping to meet this problem by adopting a more efficient tax billing and collection plan; by installing a budgetary system that gives better control of costs, expenditures and commitments in each department.

In helping any municipality work out this problem, Burroughs representatives are often of great service. Their long experience and intensive study of the whole field of muncipal accounting—their technical knowledge of machines and methods which save time, effort and expense—are extremely valuable. And Burroughs will welcome an opportunity to serve you. For complete information, telephone your local Burroughs office or write direct to—

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6152 Second Avenue Detroit, Michigan

Today's **Burroughs**

DOES THE WORK IN LESS TIME—WITH LESS EFFORT—AT LESS COST

Roller-Smith Co. Shifts Personnel

In order to devote his entire time to his duties as chief engineer, J. D. Wood has resigned as president of the Roller-Smith Co. The tremendous growth of the company's business, the need for increasingly greater engineering activities resulting from the completion of the new test station have resulted in more and more of Mr. Wood's time being spent on engineering work.

Mr. Wood has been connected with the electrical industry since 1919 when, following two years of teaching, he joined the Westinghouse Company. In 1923 he went with General Electric and later with the Condit Electric Manufacturing Company. In 1928 he became assistant to the chief engineer of Roller-Smith. In 1932 he became head of the engineering department. To fill the presidency relinquished by Mr. Wood, the board of directors have elected Reg Halladay, a director of the Roller-Smith Co. since 1939.

New Chief Engineer for Pitometer Company

E. Shaw Cole has been promoted to the position of Chief Engineer of the Pitometer Company, 52 Church St., New York City. Mr. Shaw has for many years held the position of engineer with this firm. Previously he was associated with Newsom and Aldrich, engineering consultants of New York City.

The position of Chief Engineer was formerly held by E. K. Wilson who will now serve as Consulting Engineer for the firm.

Drake Returns to Post Of Buffalo Water Director

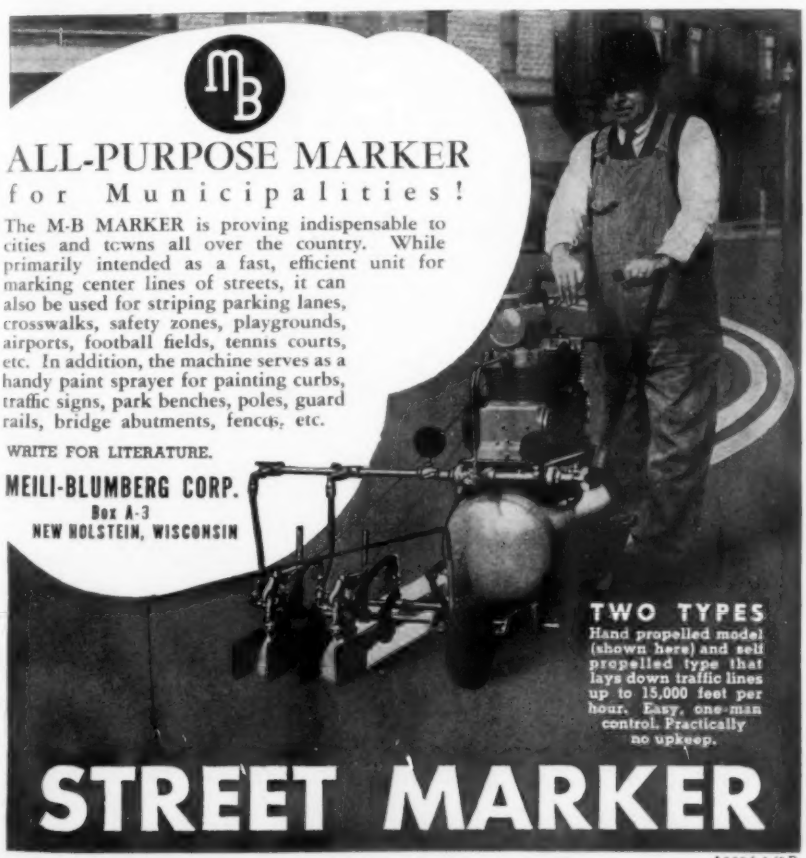
Alan D. Drake has resumed his position of Director of Water, Buffalo, N. Y., after a year's absence. During this time, he has held the position of Senior Engineer, Airport Section, Engineering Branch, Corps of Engineers, U. S. Army.

Ford, Bacon and Davis, Inc. Selects New Head

Ford, Bacon and Davis, Inc., engineers, New York, announces the election of James F. Towers as President. W. von Phul, who was president for the past 20 years, will actively continue as Chairman of the Executive Committee.

Mr. Towers began his career as an engineer with the Tennessee Coal Iron and Railroad Co. at Birmingham. Later he became connected with the Illinois Steel Co. at Gary and in 1918 joined the organization of Ford, Bacon and Davis to manage a large chemical operation manufacturing war supplies.

In January 1941, Mr. Towers was appointed assistant director of Priorities of the OPM at Washington remaining there until May.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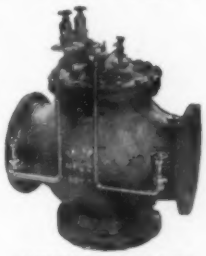

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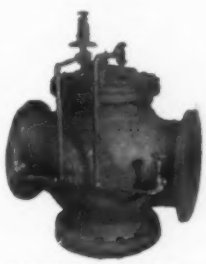

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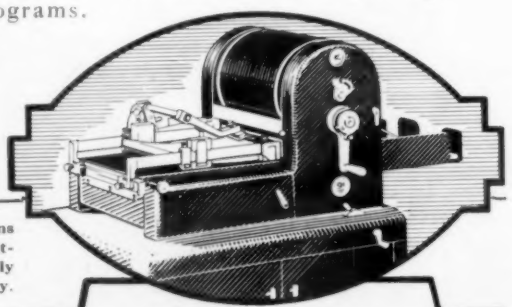

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Hays Manufacturing Co. Plans Sales Policy

"Serving Existing Customers During the Emergency" was the major theme of the annual sales meeting of the Hays Manufacturing Co., held the second week in January at the home office in Erie, Pa. According to R. C. French, Sales Manager, the present indications are that the government will cooperate to the fullest possible extent to take care of water-works requirements, and more particularly for repairs, replacements, and for such modernization as may be authorized. The importance of water-works officials giving the wholesalers preference ratings when ordering brass goods was stressed. Such ratings are essential so that the manufacturer can obtain the necessary materials.

Coordination of Sales by Allis-Chalmers

Walter Geist, Vice-President of the Allis-Chalmers Co., heads a new department established to coordinate the company's sales policies, according to an announcement made by W. C. Buchanan, President of the company. "The matters of sales and sales organization have become very complex," states Mr. Buchanan, "because of the company's all-out war effort which puts practically its entire productive capacity at the disposal of the Army, Navy, Air Corps, and the vast number of manufacturers producing material vital to our war efforts."

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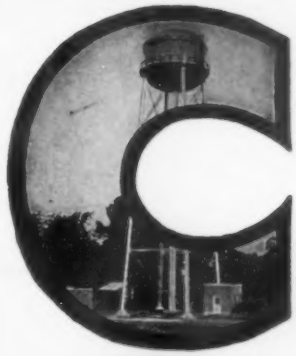

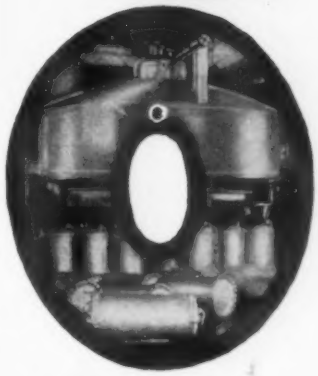

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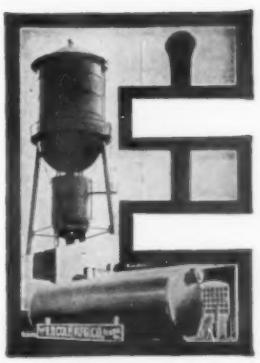

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October 10th, 1941.

Mr. George S. Conover,
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Dear Sir:

This is to acknowledge receipt of the Municipal Index and Atlas, which is often referred to as the "Engineers Bible".

It seems to me that manufacturers of any size should be listed in your Index.

Whenever we are in need of equipment, I always write to the various manufacturers listed in the Municipal Index and Atlas.

Please accept my thanks for the Atlas.

Yours truly,
Robert M. Benell
Robert M. Benell,
City Civil Engineer and
Supt. of Streets.

rmb;ab

Any manufacturer who does not use adequate space in the Municipal Index to illustrate and describe his products for municipal and water works uses is overlooking one of the most efficient means of gaining effective sales producing publicity.

THE MUNICIPAL INDEX
470 Fourth Ave., New York

Iowa State College Scores Clean Sweep in Design Competition

Students at Iowa State College dominated the Annual Students' Bridge Design Competition held by the American Institute of Steel Construction. Designs submitted from this school won first, second, and third prizes as well as first and second mention and both honorable mentions. Students winning these awards were: first prize, Everett Thorbrogger; second prize, R. Kenneth Kendall, third prize, Carlton Mueller; first mention, Gordon Johnson; second mention, Wayne A. Norman; honorable mentions, Dick Utterback and Ralph A. Krass.

These awards were made by a jury of nationally known architects and engineers consisting of Lorimer Rich and Don E. Hatch, architects; Henry C. Tammen of Howard, Needles, Tammen and Bergdoff, consulting engineers; Roger W. Sherman, managing editor of Architectural Record; and L. G. Sumner, Engineer of Bridges and Structures, Connecticut State Highway Department. Fifty-nine students from 15 colleges participated in the competition. Thirty-three entries were received from Iowa State College.

Sleeves Developed for Bombed Mains

Anticipating the need by water departments of a practical repair device for use on water mains broken by bombing, the American Cast Iron Pipe Company, Birmingham, Alabama, has developed a series of sleeves for this purpose.

These have not yet been offered for general distribution. At present they have been offered only to a representative group of customers to obtain their reaction for further developments. As soon as these reactions are obtained, company officials say, they plan to prepare the equipment for general distribution.

F. L. Flood New Member Metcalf and Eddy Firm

Metcalf and Eddy, Engineers, of Boston, have announced the admission of Frank L. Flood to the firm. Mr. Flood was graduated from Northeastern University, College of Engineering, in 1922. He was elected permanent president of his class and later served as president of the alumni association.

For five years Mr. Flood was assistant engineer in the Engineering Division of the Massachusetts Department of Public Health prior to 1925. Since that time, he has been assistant and senior engineer with Metcalf and Eddy. He has also served as special lecturer in sanitary engineering at Northeastern University. During World War I he served in the United States Army for 27 months.

Mr. Flood is a member of the American Society of Civil Engineers, Boston Society of Civil Engineers, New England Water Works Association, and the New England Sewage Works Association.

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The American City

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This disparages not at all intelligent activities of civilian defense councils, nor Red Cross preparedness for disaster-relief. But it does question the patriotism of alarmist propaganda which would seek, by excessive precautions at home, to divert needed materials and manpower from the successful prosecution of the war.

In American cities today there is little place for personal "safety first"— but there is great need for every public and private service that can contribute constructively toward success in democracy's titanic struggle for Victory and Humanity.